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NUMBER 1—1923.

1 JANUARY, 1923.

DISTRIBUTION:

In general: Bureaus of the Navy Department; all force commanders; all commanding officers of capital ships, the larger patrols, destroyers, and submarines.

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OFFICE OF NAVAL INTELLIGENCE.

MONTHLY INFORMATION BULLETIN.

NUMBER 1—1923—1 JANUARY, 1923.

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GREAT BRITAIN.

POLICY WITH RESPECT TO AMERICA.

9 November, 1922.

The following extract from an extended preelection address made in London by Lord Curzon, minister for foreign affairs, 8 November, 1922, is of special interest as representing, not only the views of the speaker, but the policy of the British Government with respect to the United States:

Of the United States I need only speak in a sentence—not because the importance of the matter is not supreme, but because our friendship with America, consolidated by the wise action of Lord Balfour at Washington, supported as he was by our excellent ambassador, Sir Auckland Geddes, is a tradition and principle of British politics [cheers], a principle from which no Government would dream of departing. There has never been a time when there has been a closer feeling and more sympathetic understanding between the statesmen of our two countries than at present.

As to our debt, we have frankly accepted the obligation—we shall pay. [Hear, hear.] We are paying, and a great and substantial payment will be made in this very month of November. We have arranged for the funding of the debt and the payment of the interest and sinking fund. At the close of the present year the new chancellor of the exchequer is going to America to conduct the negotiations which were to have been initiated by his predecessor, Sir Robert Horne.

As to the participation of America in the policies and aspirations of Europe, it is for her to offer, not for us to suggest. She has got interests not merely political, commercial, and financial, but moral, sentimental, and humanitarian in many of the great European problems, by which we are at present distracted. We can never forget the part, both idealistic and practical, which she took in the war, and whenever she is willing to give her assistance in the reestablishment of equilibrium and the conclusions of peace, we will welcome it. [Cheers.] She can do a great deal in that respect, but she must do it at her own time and in her own way.

GREAT BRITAIN.

IMPORTANCE OF MERCHANT MARINE TO NAVY.

8 November, 1922.

The following article is quoted as of interest in connection with the development of the British mercantile marine, with a view of

its becoming more directly and intimately affiliated with the Royal Navy:

The battleship is not obsolete. If it had not been for the Grand Fleet at Scapa Flow the Tenth Cruiser Squadron could not have carried out the blockade. Therefore the time is not ripe for scrapping our battleships.

This statement was made by Admiral Sir R. G. O. Tupper at the conclusion of a lecture on "The blockade of Germany," which he delivered at the Royal United Service Institution, London.

Admiral Tupper also referred to the large number of foreigners in the British merchant service, and said that our ships should be manned by British sailors.

"I ask you," he said, "to do all you can to keep our merchant service up to its present standard, and to do away with all foreigners in the merchant service. In my humble opinion the merchant service should be manned entirely by British sailors. The Royal Navy personnel has been reduced to 123,000. In the merchant service there are 284,000. Of these, 65,000 are foreigners and 75,000 lascars. There are 113,000 in our fishing fleet. We must interest our boys in the sea. No one wishes to forward a knowledge of the air more than I do, but I hope that in the pursuit of that knowledge the needs of the navy will not be lost sight of, because on it the safety of the Empire must still depend. I want to see the bonds between our navy, our merchant navy, and our fishing fleet more closely knit."

In his lecture on the blockade Admiral Tupper described the dangers and difficulties of the operations with graphic detail. The blockade was at first carried on by older class cruisers, but it was soon found that these were quite unsuited for the work. In one terrific gale off the Shetlands the *Crescent* was nearly lost. The bridge was carried away, and it was with great difficulty she got back to port. It was decided to use merchant cruisers with merchant crews and naval officers in command. The holds were specially fitted to carry a large supply of coal, and they could keep at sea for 42 days or more at a stretch. These ships, the largest of which was the *Alsatian*, were all camouflaged and divided into separate patrols, which operated between Iceland and the Shetlands. Iceland tried hard to send hides, fish, and grease to enemy countries, and a strict watch had to be kept.

"The vessels would patrol 30 miles apart, and as the men on the crow's nests could see 15 miles, a thorough lookout was assured.

"We worked by Lloyd's list a good deal," said Admiral Tupper. "We used to pick out a list of suspects. Then it was our brains versus theirs. I am proud to state that hardly one ship ordered to be intercepted got through.

"Directly a ship was sighted she was chased and ordered to stop. Then an examining officer and an armed guard boarded her and made a search for arms and contraband goods. Some of the artifices resorted to by ships were highly ingenious. Hollow masts, double decks, and double bulkheads were used to conceal arms. Rubber, which was of great service to the enemy, was disguised as coffee beans, and in some ships rubber was found painted to represent onions and other vegetables.

"If a ship was found to be all right she was allowed to proceed on her way. If, on the other hand, she was found to be running contraband, the armed guard remained on board and made the captain put into Lerwick or Kirkwall. One extraordinary thing about the naval operations of the enemy was that they made a practice of firing at the boats of torpedoed merchantmen, but they never attacked the boats of a man-of-war."

GREAT BRITAIN.

ENGINEER OFFICER REDUCTION.

31 October, 1922.

The special reduction scheme introduced in May, 1922, to remove the surplus of officers in the engineer branch of the Royal Navy practically has been completed so far as engineer officers are concerned.

The following extract from an article in the Times Trade Supplement of 28 October, 1922, is quoted as of interest in indicating the composition of the present and proposed engineer officers of the British Navy:

A significant feature of the retrenchment scheme, so far as engineer officers were concerned, was its restrictions to those of the old scheme of direct entry and training. As regards the service in general, no distinction was made between specialist and nonspecialist officers in deciding whether applications to retire were to be permitted, but it was specifically announced that "(E) officers and officers specializing in (E), of whom there is no surplus, are excluded from this scheme." These officers, of course, are those who entered as cadets and were trained together at Osborne and Dartmouth with the officers for other branches. On volunteering to specialize as engineers, they were appointed to a course of training at the Royal Naval College, Keyham, which is now commanded by an engineer-captain, R. N., and a selected number were subsequently appointed to an advanced course at the Royal Naval College, Greenwich.

It will not be until June, 1923, that the earliest of these new scheme-engineer officers will be eligible for promotion to commander (E). The first of them was promoted in June, 1920, to lieutenant commander (E), and in accordance with a revision of the promotion zones recently announced, three years is the minimum to be completed, in the ordinary course, before advancement. So far, some 22 of them have attained the rank of lieutenant commander (E), of whom only 8 are employed in sea-going ships. The machinery of several small craft in the fleet is now under the charge of these officers, but not that of the larger battleships or battle cruisers, in which engineer commanders of the old school continue to serve as chiefs, though it is only a matter of time before Osborne-trained officers supersede the latter. Meanwhile, the other lieutenant commanders (E) are successfully filling important shore appointments in the dockyards, the private shipyards, and the Admiralty and elsewhere.

The prospects, therefore, of the younger engineer officers are very good. Not only is there no surplus among their own ranks, but the clearance of the higher lists makes possible a normal flow of promotion thereto. Moreover, the changes in administration which are contemplated will increase opportunities for service and distinction in the branch, especially when the electrical installations of large ships, now in charge of the torpedo lieutenants, are transferred to the engineer officers.

GREAT BRITAIN.

NAVAL CANDIDATES IN GENERAL ELECTION.

8 November, 1922.

In connection with the general election, the following rules were issued by the Admiralty:

Officers or men wishing to stand as candidates must get Admiralty permission.

The candidate may then be granted leave to see his nominators and for the election.

The candidate may address meetings and otherwise prosecute his candidature, but not in uniform.

If elected, an officer goes to half pay, subject to retirement for nonservice. A rating may take full discharge or go to the Royal Fleet Reserve for two years, during which he may either take discharge, or, subject to approval, revert.

Officers or men assisting in political campaigns are not to wear uniform.

Men in uniform may attend meetings and ask questions.

JAPAN.

ORGANIZATION OF FLEET.

24 November, 1922.

According to the Japanese press, the Japanese Fleet organization as finally decided upon to take effect from 1 December, 1922, is as follows:

FIRST FLEET.

First division (4 battleships): *Nagato*, *Mutsu*, *Ise*, *Hyuga*.

Third division (3 light cruisers): *Oi*, *Kuma*, *Tama*.

First torpedo division: Flagship *Tatsuta* with four destroyer flotillas.

First submarine division: Flagship *Chikuma* with two submarine flotillas.

SECOND FLEET.

Second division (3 battle cruisers): *Kongo*, *Hiyei*, *Kirishima*.

Fourth division (3 light cruisers): *Nagara*, *Eura*, *Kinu*.

Second torpedo division: Flagship *Kitagami* with three destroyer flotillas.

Second submarine division: Flagship *Yahagi* with two submarine flotillas.

Beginning next spring the aviation depot ship *Hosho* will be attached to the first fleet and the aviation depot ship *Wakamiya* to the second fleet.

JAPAN.

JAPANESE PROPAGANDA IN SHANTUNG.

31 October, 1922.

Source: Japanese Press.

(The Tsinan Jih Pao is a Japanese-owned newspaper published in the Chinese language at Tsinan fu. It is circulated and read largely by Chinese university students and by the educated Chinese people.)

THE AMERICAN DOCTRINE OF JUSTICE AND RIGHTEOUSNESS.

Under the above title the Tsingtao Supplement of the Tsinan Jih Pao offers the following diatribe against the Americans:

Since the Great War justice and righteousness have become the basis of international dealings. Theoretically, this sounds very fine, but as a matter of fact we can not help inquiring how it works out in practice. **Let us take the United** States as an example.

With reference to this American doctrine, we have the right to ask and the Americans have the duty to answer the following questions:

1. Internal.—How can the Americans reconcile their custom of lynching with their doctrine of justice and righteousness?

2. External.—In international affairs the Americans discriminate against the yellow race, denying them the privileges of becoming naturalized American citizens, keeping them from developing agriculture on American soil, and enforcing regulations aiming to get rid of the Chinese and the Japanese. What is such conduct based upon?

3. The Washington Conference.—Unequal treatment of different countries was clearly revealed through their contracts for warships and strategic positions. What principle is this?

One day while I was in Washington a negro came to see me; he brought several books with the title, "Groans Addressed to all the Nations Participating in the Washington Conference." The books were newly published pamphlets, with photographs of the burning of negroes by the whites. These illegal punishments are inflicted on innocent negroes. Moreover, American law considers the negroes as having equal rights with the whites. But what is the attitude of the white Americans? They not only do not stop these practices as illegal, but actually justify them. Is this justice? I thoroughly believe that what the negro said was true, and sympathize with him. The last part of this pamphlet gave illustrations and evidence of unlawful activities on the part of Americans in Haiti. It read:

"CRUELTY OF THE UNITED STATES IN THE REPUBLIC OF HAITI.

"The following incidents were witnessed by citizens of the Republic of Haiti:

"1. The National Bank of Haiti, with an American corporation under control in New York, interferes with the powers of the President of the Republic in order to violate its sovereignty.

"2. Woodrow Wilson, when President of the United States, sent a few delegates to Haiti, compelling the latter to make an agreement with the United States.

"3. On July 29, 1915, American troops illegally invaded Haiti.

"4. On August 12, 1915, the Americans obliged the people of Haiti to elect Dartiguenave as their President in order to carry out the American policy of annexing the entire country of Haiti.

"5. Two days after the election the American commander proposed another treaty with Haiti.

"6. On August 13, 1915, the American commander demanded the ratification of this treaty.

"7. On the 24th of the same month an American admiral occupied the customhouse of Haiti and dismissed the native officials.

"8. On September 13, 1915, this admiral occupied Port au Prince, the national capital, and immediately proclaimed martial law."

The citizens of that country said that for a long time their Government had been at the mercy of the United States. The United States had occupied their country, seized their customhouse, and the admiral had confiscated the money of their national bank. In a word, the injustice of the Americans beggared description.

JAPAN.

CONSTRUCTION OF SUBMARINES STOPPED.

16 November, 1922.

Orders have been given by the Japanese Navy Department stopping all work on submarines Nos. *53*, *54*, *55*, *56*, *60*, *61*, and *63*.

These submarines are not to be built, at least for the present.

The reason for the above action is not known.

JAPAN.

NAVAL GUNNERY TRAINING.

15 November, 1922.

The following information concerning Japanese naval gunnery training is stated to be a translation of a foreign report:

The men selected to discharge important functions (such as pointers and gun captains—literally "head of gun") are trained at the Naval Artillery School at Yokosuka. Naturally, also, practical instruction is given on board ship, but this applies more particularly to anything relating to the guns, their mounting on board, and accessories.

At the Naval Artillery School the following courses of lectures are given: (1) Theoretic-practical course, ordinary or elementary, attended by seamen of the first and second class; (2) higher theoretic-practical course, attended by seamen of the first class and petty officers; (3) special theoretic-practical course attended by petty officers. The students of the ordinary course are selected from among the younger seamen by means of competitions or examinations; those for the higher course from men who have concluded the ordinary course and done well therein (mostly petty officers); and those for the special course from ratings who have gone through the higher course successfully and who, moreover, show a pronounced aptitude for gunnery.

With regard to the actual training of this body of men it is impossible to obtain precise and detailed information. The practical training of the gun

pointer is divided into the two following branches: (*a*) Management of the gun and firing from the ship; (*b*) practical course of descriptive (?) artillery. Range takers must learn the practical management of their respective optical instruments. The model most in use is that of the Armstrong firm. In the establishments of the Japanese Navy there has been seen an apparatus of Japanese manufacture, apparently, which did not differ very greatly from the Barr & Stroud type.

The fundamental instruction is imparted in the Yokosuka School; the practical instruction afterwards in a ship.

In the Yokosuka school the guns which are used for practical instruction are assembled in a shed similar in construction to the armored battery of a ship. This shed faces the sea, and is covered in such a manner as to permit exercises to take place in all conditions of weather. In the upper part, above the battery proper, there is an installation of range finders, where the students receive instruction. Divided into groups of three for each apparatus, they measure the ranges of the ships, mostly destroyers, which carry out evolutions all day in the Bay of Yokosuka for this and other purposes of training. The measurement of the ranges is checked, also the time occupied in taking them, and for this purpose the instructors stand, watch in hand, registering the number of measurements taken in a given interval. The ranges are then counted aloud by the seamen of the various groups. This system serves to encourage a spirit of emulation among the range takers.

The ordinary course at Yokosuka lasts six months. The gun pointers and range takers then undergo an examination to determine their individual proficiency. To those who especially distinguish themselves in this examination the medal for merit and special prizes are awarded, as well as certificates, diplomas, and honorable mentions.

There are other specialist branches in the Japanese Navy, namely, torpedo, aviation, and, perhaps temporarily, submarines, together with advanced navigation, celestial astronomy, and hydrography. In the higher college there are also staff courses. When, four years after entering the naval school at Etajima, the midshipmen are promoted to acting sublieutenants, becoming lieutenants they must go through the artillery and torpedo courses in the respective schools at Yokosuka.

The artillery course is of three kinds—elementary or ordinary, higher, and special. The first is obligatory for acting sublieutenants and for the sublieutenants, and lasts not more than a year. The higher course is attended by sublieutenants selected from those who have already undergone the elementary course. The special course is attended by lieutenants and commanders selected, at their own request, by merit on the basis of results achieved in the higher course.

The training of gunners on board ship is divided into two parts—training by unit and collective training.

Every year the navy department publishes the regulations relating to the two branches of training. The execution of the department's program is entrusted respectively to the commanders of the ships and the admirals commanding the squadrons. In the training by unit is comprised all that refers to the individual instruction of gun pointers and range takers. The collective exercises consist specially in battle firing, in which all ships of a squadron or division take part, according to the method chosen, absolutely on his own initiative, by the commanding officer of the squadron. In addition to battle firing, subcaliber and other practice is carried out. The frequency of the practices, the ranges, and other details are left entirely to the discretion of the officer commanding the ship or the squadron.

JAPAN.

WAR VESSELS TO BE SCRAPPED.

21 October, 1922.

Source: Vernacular. Press.

According to the Japanese press about 190,000 tons of ships of the Japanese Navy will be scrapped as the result of the Washington Conference, reducing the Japanese Navy by next spring to as follows:

	Tons.
Capital ships	301,320
Cruisers	86,870
Destroyers	70,000
Submarines	21,000
Coast defense:	
First class	73,983
Second class	25,832

and some depot ships, mine layers, special service ships, etc.

The naval policy of these days of economy and limitation will naturally be for improvement of inner working order aiming at attainment of highest efficiency in all branches, which is vital in the maintenance of a high-powered fleet. Therefore sufficient funds must be allotted for movements and action of fleets, even at the cost of reduction of expenses in other items. Since all new ships are oil burners, which is more expensive than coal-burning vessels, and the increased expenditures for improvements of the air service, the naval budget can not be cut as much as desired.

The navy department is desirous of having only the newer ships in the standing fleet, the older vessels to be placed in the reserve fleet. They also wished to assign the new cruisers to patrolling services but as they are oil burners, and as it is necessary to economize, the older coal-burning vessels will be continued on this duty. Other vessels, old and less useful, will be placed out of commission, such as third-class destroyers and the torpedo boats.

JAPAN.

NAVAL REDUCTIONS.

11 November, 1922.

The following article, which appeared in the London Times of November 10, in addition to imparting information of interest to the British, was no doubt inspired by the British Government with a view to bringing it to the attention of Americans, with a view of expediting further scrapping operations in the United States Navy, in advance of the ratification of the treaty by France and Italy, and

the general exchange of ratifications. There have been frequent allusions to this matter, and particularly to Secretary Denby's announced policy in this matter, by British naval officers, and others:

Active steps have been taken by the Japanese naval authorities to give effect to the Washington treaty.

The heavy armament (12-inch) and the turrets of the battleships *Kashima*, *Ikoma*, and *Kurama* have been dismantled and two of the newest battleships, the *Kaga* and the *Tosa*, are to be used for target practice, before they are broken up, at the naval stations of Yokosuka and Kure. All the capital ships to be scrapped have been relegated to the fourth reserve fleet and preparations are practically completed for the work of demolition on the majority of them. Port Arthur will no longer be used as a naval base after December 1, and after April 1, 1923, the status of the Maizuru naval station is to be reduced.

JAPAN.

REDUCTION OF NAVAL PERSONNEL.

21 October, 1922.

Source: Vernacular Press.

In conjunction with reduction due to armament limitation the Japanese Navy proposes to reduce its personnel something like as follows:

(*a*) Various organizations on land will be reduced about from 10 to 15 per cent.

(*b*) On sea, with exception of fleets, number will be reduced as much as possible.

With these reductions it will be as follows:

	Present.	After reduction.
Officers	6,100	5,300
Special and warrant officers	2,480	1,800
Petty officers and men	74,200	55,000

(About a 25 per cent reduction.)

The problem found most embarrassing due to personnel reduction is the case of students in various naval schools. Having called large numbers of them in anticipation of requirements following the completion of the 8–8 fleet, and now having given up in favor of the 8–6 fleet, half of them will be excessive. They can not be forced to quit the schools; therefore the excessive number will have to be dropped after commissioned and during promotion up to lieutenant commander. The number of students to be admitted to the Naval Academy will therefore be much reduced hereafter; for instance, about 80 will be admitted during the coming year, 100 next year, and 120 in the year following, etc.

A large number of officers will be retired in December.

JAPAN.

ALLOWANCES FOR RETIRING OFFICERS.

20 October, 1922.

According to the Japanese press, army and navy officers and petty officers, who are to be retired on account of the armament limitation, will receive allowances from the Government about as follows:

Admirals to receive approximately 2 years and 3 months salary.

Vice admirals to receive approximately 2 years and 4 months salary.

Rear admirals to receive approximately 2 years and 4 months salary.

Captains to receive approximately 2 years and 5 months salary.

Commanders to receive approximately 2 years and 6 months salary.

Lieutenant commanders to receive approximately 2 years and 9 months salary.

Lieutenants to receive approximately 2 years and 10 months salary.

In other words, highest limit, yen 17,000 for admirals and lowest, yen 500 or yen 600 for petty officers.

The allowances will be six months' pay in cash and the remainder in Government bonds, and will be given to those placed in reserve during the period 5 August, 1922, to 31 December, 1923. Special favor will be given in cases of petty officers and men that were retired before 5 August, 1922, whereby they also will receive the regular allowance.

JAPAN.

GENERAL NOTES REGARDING NAVAL ACTIVITIES.

18 November, 1922.

Source: Personal Observations of a Correspondent.

The Japanese are not wasting any time. Besides their very large program of cruisers they are constantly laying down new submarines, many more than they are publishing figures for. They sent a mission of submarine experts over to Europe this summer chiefly to inspect British, French, and Italian engines, which seem to show either that they haven't yet succeeded in producing a satisfactory Diesel submarine motor themselves, or that their resources are not adequate to cope with the big demand for such machinery. They are now building boats of 1,500 tons, a whole series of them, and it is known for a fact that plans have been gotten out forlarger ones, up to 2,200 or 2,500 tons, but it is not sure whether any of these latter have been actually commenced.

FRANCE.

PILOTLESS PLANE TESTS.

28 November, 1922.

1. Following the recent pilotless-plane experiments in America, carried out with complete success by the Army Air Service, similar flights were realized at Etampes (Seine-et-Oise) yesterday by the French civilian aeronautic experts. By Hertzian waves a biplane fitted with a 300 horsepower motor was made not only to fly, but also to turn, loop, rise, descend, and do various stunts with nobody on board.

2. The "automatic pilot" in wireless-directed airplanes is a small wireless receiver, and it is operated from a wooden hut with a wireless wave-emitting machine resembling a miniature piano. From the hut the operator can not see the machine he is "piloting," and watchers yesterday often lost sight of the plane, as heavy mist was prevailing.

3. Both the take-off and the landing of the machine were perfect, and throughout the flight the plane was under absolute control. The plane carries a newly invented automatic stabilizing apparatus and has special electric and wireless fittings; otherwise it is the ordinary biplane.

4. The experiments in America for the wireless control of airplanes took place on November 15 last. Several flights of more than 90 miles were made without a hitch and hundreds of take-off tests were made without a single crash. The report of the Army Air Service officials who supervised the experiments said:

> The automatic pilot may be mounted on any type of plane, and in bumpy weather will hold the plane much steadier than a human pilot and carry it absolutely true to course, regardless of fog or other adverse weather conditions.
>
> The apparatus can be described as a gyroscope which serves for brains and bellows or pneumatics similar to those in a player piano, which take the place of the muscles of an aviator.

5. The experiments show the possibility of sending bomb-laden planes without pilot at targets in the air or on the ground with astonishing accuracy.

ITALY.

POLITICAL SITUATION.

1 November, 1922.

Source: Press and Observers.

1. The events leading up to the recent fall of the Facta ministry and the appointment of the Mussolini ministry are as follows:

A national Fascisti congress was held in Naples, October 24. The Fascisti leader, Benito Mussolini, bitterly attacked the existing gov-

ernment for incompetency and threatened the taking over of the Government of Italy by peaceful methods or by force. About 30,000 Fascisti attended the Naples congress, drawn from all parts of Italy. The estimated strength of the Fascisti following in all of Italy is about 600,000. The Fascisti "Army" numbers 200,000 of these.

The result of the Naples congress seems to have been that the march on Rome would take place to back up its leader's defi uttered at the congress, and the concentration of the Fascisti for the march began, coming from all parts of Italy, but the largest numbers came from the north. It would seem that this concentration was orderly, well organized, and paid at least for subsistence. Transportation was probably commandeered.

October 27 the Facta Government resigned. The King asked Signor Facta to remain in temporary control pending the formation of a compromise government. Mussolini declined to take part in a government with the Liberal Democrats who have been practically in control of Italian politics for the last 50 years.

October 29 the Fascisti squads began to arrive in the vicinity of Rome. Most of them were in some sort of uniform and nearly all wearing the black shirt, which seems to be the badge of the organization. They were practically all armed with some sort of weapon. A large number were in possession of modern military rifles and ammunition; a great many were armed with ordinary shotguns. Nearly every man carried some sort of a revolver as well as a knife stuck in his belt. Those not armed with firearms carried clubs. No artillery was noticed, but a sprinkling of up-to-date machine guns with ammunition was in evidence.

The cabinet (Facta ad interim), when the situation seemed menacing, declared a state of siege and Rome was put in the state of defense by the military authorities, going so far as to close certain gates, establishing lookouts, and putting up barbed-wire defenses. Railway tracks were also removed by order of the military.

These events took place during the day of the 29th, and that evening the King refused to sign or sanction the state of siege proclamation of the cabinet and ordered that the city return to normal status. The Fascisti entered Rome unopposed and, in fact, were made welcome, and their lodging and subsistence were arranged for. They were given school buildings for barracks and army cameons were assigned to supply them with food, etc.

The local governments of many of the northern cities during this period had been taken over by the Fascisti, and in only one or two cities was any blood shed. In one five Fascisti were killed.

The King's action immediately gave him tremendous popularity with the Fascisti and their continual cheer was "House of Savoy"

and "Long Live the King." In its earlier utterances the Fascisti Party had come out with a strong republican tendency.

As far as can be learned, Mussolini at this time was in Milan, which is his residence and the headquarters for his newspaper Il Popolo d'Italia, a very popular paper at this time. He kept in close touch with D'Annunzio. His agents in Rome kept him in touch with affairs in the capital, and the question of a compromise ministry at this time fell through. According to the press the King telegraphed Mussolini to come to Rome and form a ministry. Mussolini accepted and arrived in Rome the forenoon of October 30, saw the King, and the following ministry is the result:

Benito Mussolini, president of the council and minister of interior (minister for foreign affairs ad interim).
Gen. Armando Diaz, war.
Admr. Paolo Thaon de Revel, navy.
Hon. Luigi Federzoni, colonies.
Hon. Aldo Oviglio, justice.
Hon. Alberto de Stefani, finance.
Hon. Vincenzo Tangorra, treasury.
Prof. Giovanni Gentile, schools.
Hon. Gabriello Carnazza, public works.
Hon. Giuseppe de Capitani, agriculture.
Hon. Teofilo Rossi, industry and commerce.
Hon. Stefano Cavazzoni, labor.
Hon. Colonna di Cesaro, posts and telegraphs.
Hon. Giovanni Giuriati, liberated provinces.

The political groups (excluding Socialists and Communists) are represented in the cabinet: Fascists, 4 ministers and 9 undersecretaries; Popolari (clericals), 2 ministers and 4 undersecretaries; Democrats, 2 ministers and 2 undersecretaries; Nationals, 1 minister and 2 undersecretaries; Liberals of the Left, 1 minister and 1 undersecretary.

On October 31 the Fascisti held a parade in Rome, proceeding first to the tomb of the Unknown Soldier and then marched to the King's Palace, where they were reviewed by the King, General Diaz, and Admiral Thaon de Revel, the new ministers of war and marine, respectively. The president of the cabinet, Honorable Mussolini, led the parade. The Fascisti army then marched to the station, where 50 trains were ready to entrain them to their respective homes.

The parade was orderly, well organized, and apparently "well in hand." In the parade the arms mentioned in previous paragraphs were carried much in evidence. The personnel of the forces was very young in age, though there was considerable sprinkling of older men. The general complexion of the Fascisti forces would seem to be the sons of the middle classes and distinctly not of the working classes.

For such a large influx of Fascisti into Rome and considering their previous reputation for violence against the Communists and Socialists, the demonstrations in Rome were comparatively free from excesses.

ITALY.

SOME EARLY RESULTS OF FASCISTI REGIME.

7 November, 1922.

1. Since the Mussolini ministry has come into office as a result of the victorious Fascista insurrection, Italy is fast returning to a normal condition as far as civil strife is concerned. The demobilization of the Fascisti and Nationalists has been for the most part orderly and very rapid. Some sporadic incidents occurred, however, when the Fascisti arrived in their home towns. For the most part these were caused by ambushes and sniping on the part of the Communists who could no longer act in the open. As stated in Italy there have also been conflicts between Fascisti and Nationalist militias.

2. Several important newspapers of Italy, which had to suspend publication on account of Fascisti occupying or destroying their offices, have not yet resumed publication.

3. Mussolini's attitude toward the freedom of the press has caused considerable excitement throughout the country. In a statement to representatives of the press he said that freedom of the press would be allowed so far as the press was worthy of it. In view of the fact that he himself has always been a newspaper man, and of late has benefited considerably by the free use of the press, this caused some hard feeling. The newspaper men saw that it meant that his Government could decide what the papers would be allowed to print. Mussolini later stated that he would allow the freedom of the press within legal limits. In view of the fact that there are laws in Italy against propaganda tending to instill class hatred, the decision as to what is legal or illegal is still vested in the Government. It therefore appears that Mussolini will keep a certain control over the press of the entire country. It is further claimed that the newspapers mentioned above could have been published by now if the Fascisti had not blocked their attempts at getting started again.

ITALY.

MILITARY ASPECTS OF FASCISTI MOVEMENT.

11 November, 1922.

1. One of Italy's chief problems at the present moment and one which is studied carefully by the Government and followed with intense interest by the people at large is the manner in which the

Fascista organization can best be employed, now that it has accomplished its great objective of absorbing the State of Italy in the Fascista State. The Fascista organization, it is generally granted, is too efficient and too resourceful to be wasted by disintegration at a time when the force and strength it contains can, if properly directed, be put to great use for the welfare of the country. Its quality of instilling patriotism into the nation and the place it has obtained as a labor organization alone would warrant its continuation as a vital element of national life. The Fascisti have also carried on a forceful and fruitful crusade against immorality of several sorts, such as the illegal sale and use of cocaine, and the showing of immoral moving pictures, while in some localities they have passed motions against extravagance, such as the wearing of jewelry.

2. The possibilities of employing the Fascist military activities in the organization of the nation's army are not being overlooked. Mussolini, General Diaz, and the principal leaders of the Fascisti are thinking hard on this subject, and it is probable that the outcome will be that Fascism will be put to considerable use in premilitary or postmilitary instruction. The premier and the minister of war have already discussed this matter, but as yet it is believed no definite plan has been worked out. Some persons think that the Fascisti local organizations will be more or less absorbed or subsidized by the Government as an auxiliary association to physically and morally prepare boys for military service and keep furloughed men in condition. Others believe that the Fascist local clubs will be used in developing a volunteer army in connection with the regular army, while others go so far as to foresee the possibility of the regular army becoming merely a cadre of officers and noncommissioned officers whose privates would be volunteer Fascisti instead of drafted men.

BRAZIL.

RELATIONS WITH THE UNITED STATES.

25 November, 1922.

Brazil has been in European leading strings for a long time and is most anxious to free herself from these ties by which she is bound principally to England, France, and Belgium. Brazilians appreciate the great natural wealth of their country, doubt their own ability to develop and use this wealth and dread its appropriation by foreigners under the guise of assistance. Although they do not regard Americans as without sin in this respect, they yet feel that our sense of fairplay and our general policy of noninterference will guarantee them more just treatment from us than from Europeans,

The more-deeply thinking Brazilian, too, states that Europe with its centuries-old inheritance of hatreds and covetousness is widely apart from the healthy, vigorous ambitions of the countries of the Western Hemisphere, which countries should, for the preservation of their ideals, draw more closely together and be less entangled with Europe.

So, American people, institutions and projects are looked upon favorably at this time by Brazil and, if a generous hand of friendship is extended while this feeling obtains, we can bind a large and prospectively great country to us in close bonds of friendship which will extend to all lines of intercouse. We are Brazil's best customer for her great export—coffee—and her prosperity is closely linked to ours.

That this fact of Brazil's turning toward us is well appreciated abroad is shown by the visit of a committee of the British Parliament in October of this year. The committee was composed of men of high type and the burden of their addresses to Brazil was "Don't drop the friends who have helped you to build up your great country." This committee was selected just after the announcement of the choice of an American naval mission and was unequestionably partly a result of that choice.

In affairs of government Brazil can be understood only if one bears in mind the fact that, although a Republic in name, Brazil is, in reality, an oligarchy, ruled by a few men, and, in actual practice, comes close to being a one-man government. The presidents of the various States of the Union form a Camarilla which really picks out the nominee for President of the Union and the Government nominees are certain of election.

Brazil has just been through the most bitter political campaign experience in her career as a republic. The opposition candidate worked on the armed classes—army and navy—to stir up a revolt against the Government, but the small outbreaks which occurred were fiascos and put down within 48 hours.

The new President, Arturo Bernardes, is an unknown quantity. He has not served in the Federal Government. His achievement has been his term as president of his State, Miras Geraes, where he showed marked financial ability, being an able governor and reducing the State debt. He has never been out of Brazil. Foreigners fear him as they believe he will be antiforeigner, but Brazilians say: "Wait and give him a chance; he will be just."

Coming to naval matters, there has been much agitation and some activity in naval circles in the past two years. President Epitacio Pessoa, President from 1919 to 1922, believed that Brazil's most imperative need was economic improvements—irrigation projects, harbor improvements, and railroad building. So he denied the army

and navy money that it might be spent for the objects mentioned. In a speech aboard the Minas Geraes a few months ago he stated that he had taken this action because he believed it necessary, not because he wished to starve the national defenses. He hoped to do what little he could for the army and navy in the little time left him. What he did was to secure an appropriation of about 13½ million dollars (a large sum for Brazil at the present time) for purchase of new units and to contract for a foreign naval mission.

As far back as 1906 the question of a foreign naval mission was mooted by the Brazilian naval authorities, but the opposition of the older officers thwarted the idea. The securing of a French military mission for the Brazilian Army in 1919 (still operating) stimulated the idea for the navy, and finally President Pessoa took the decisive step.

The British ambassador worked very hard to have a British mission selected. The press of Rio de Janeiro was impartial in favoring either British or Americans. The president's admiration for Rear Admiral Vogelgesang had much to do with the decision, but credit must also be given the chain of officers, including Admiral Vogelgesang himself, who, since 1914, have worked with the Brazilian Navy, particularly in their war college, and gained the respect of Brazilian officers.

The detailing of young Brazilian officers to our fleet created a very favorable sentiment toward us among the younger officers, but, as seniority is a force of overwhelming power in the Brazilian Navy, this sentiment did not have any appreciable effect in the selection.

In Washington I was asked by many officers: "What do the Brazilians expect the mission to accomplish?" Were I to try to answer in one word I should say, "Miracles!" The younger officers, particularly, have an unbounded faith that the mission will be able to "touch the dead body of naval credit and make it spring into life." They believe that the Brazilian lawmakers will respect the recommendations of a foreign mission where they ignore those of Brazilian officers. Older officers are more moderate in their expectations. They say that one great need is to instill an esprit de corps into the navy and to make them realize the real mission of the navy. Hitherto the armed forces have been looked upon as the supporters of those in office against the Brazilian people and not a force for the defense of Brazil as a whole against outside menace.

One canker in the naval body politic is the low rate of pay. This causes a great part of the officer personnel to enter into various business affairs to augment their incomes. The distraction is a loss, naturally, to their value as naval officers.

There is much red tape and considerable lost motion in the Brazilian Navy and this the mission should be able to lessen by proper

reorganization. There will be opposition to the mission from some of the higher-ranking officers, but others will help them, and, if the directing powers (president and minister) are back of the mission, they can make the path smoother by removing obstructions. This is what happened in the case of the French mission and Brazilian Army. It is known that President Bernardes felt slighted because he was not consulted regarding the contract for the mission, but it was learned that he would help them in their work.

I was asked by one officer in Washington what good it would do us to associate with Brazil and have their friendship. My reply is Brazil is an enormous country with a bright future. She is half of South America and has about half the population of the continent. She has about 4,000 miles of coast line and many excellent harbors. In case of war in the western Atlantic her harbors and resources will be of great value to us. Furthermore, there are at least two American countries which are trying to consolidate Latin-America against us. With Brazil on our side we can checkmate that policy. And a friend never comes amiss when days of trouble arrive.

A word here as to the type of men who are sent to Brazil on the various commercial missions which are sent from time to time. When the British send such missions they are, as a rule, composed of men of culture, broad knowledge, and prominence in their chosen line of work. This is less often true of American representatives and makes a bad impression on Brazilian officials.

BRAZIL.

RELATIONSHIP BETWEEN BRAZILIAN AND AMERICAN NAVIES.

1 December, 1922.

Brazil is a vast country containing much natural wealth and needs only the advent of sufficient population to supply labor and sufficient financial assistance to develop her resources in order to become one of the great nations of the world. She is in much the same status as were the United States in 1850, but, in these days of scientific advances, progress can be made faster than was possible half century ago and, granted sufficient population, it will not take Brazil 70 years to reach the stage of development now occupied by the United States. Brazil is a country whose friendship and whose trade are well worth gaining.

In Brazil the armed classes—that is, the army and navy—occupy a much more prominent position in the political life of the country than is the case in the United States. Naval officers may, and do, hold position in State and Federal Government without prejudice

to their status as naval officers. Officers are consulted, too, by the administration to a greater degree than in the United States.

So any sentiment which is held in the navy is quite likely to find reflection in the administration of the republic. Thus if the bonds of respect and friendship which exist between the Navies of the two countries can be strengthened, there is likely to be a more immediate effect upon the political relations of the countries than would be the case in the countries where the armed classes have less influence in the Government.

The Brazilian Navy has been neglected, financially, for a good number of years, but the leading spirits of Brazil have been aroused to the low material state of their navy and substantial measures are now being taken to begin the rebuilding of their naval defenses of all types except capital ships.

It is idle to assume that all this material would be ordered from the United States. It has always been Brazil's habit to distribute her orders among various countries, but, if our relations are close, we can be sure of supplying some of the material, and what is of equal importance, we can induce Brazil to order units of such design that they will be suitable for working with ours in the case of a war which would bring Brazil in; this would be a factor of great importance, which would be further emphasized if Brazilian personnel has been given training along American lines.

In any war, Brazil could help us by supplying certain indispensable commodities, coffee, manganese, for example. In a war in the Atlantic, the privilege of using her 4,000 miles of coast and the various good harbors she possesses would be highly valuable.

Brazil has made great strides in development in the past 15 years and now stands rather at a crossroad. Her past development has been bound up with European connections, but Brazil does not desire to continue those connections on the old basis. The purchase and nationalization of many of the Brazilian railroads is one indication of this. Brazilians are turning more toward the United States. The thinking Brazilian feels that our ideals are closer to his than are Europe's, and seeing the sorry mess Europe has been in for the past eight years he feels a desire to be clear of it all and to find and follow the route by which the United States has risen to so strong and independent a position.

Brazilians are sending their sons to college and scientific schools in the United States more than ever before. They are adopting American social customs, such as athletics and freeing their women from the narrow social restrictions of the past. In fact the younger generation, especially in the capital, is very similiar in its habits and ideas to their American counterparts.

The moment is opportune for drawing to us the sympathies and friendship of what will in a not far distant future, be a great people, and the American Navy by its greater facilities for contact has the opportunity to be a principal agent in this rapproachement. The younger Brazilian naval officers who have served in United States ships are enthusiastic in their liking for our ways and the desire to make their service like ours. It is a pity the practice of permitting such service has ceased.

A few words about the psychology of the Brazilian naval officer may not come amiss. Due to the political history of the country, the army and navy have never developed a purely national viewpoint. There is too much the feeling that the armed forces exist solely for maintaining the authority of those in political office and not for *national* defense. The appointment of naval officers as ministers has rather accentuated this idea, too, and has encouraged the formation of cliques in the service. This, in turn, has operated against the development of a healthy esprit de corps. There has been suspicion of one another, based on intriguing for influence and power.

Added to this, the low pay of the navy has caused many officers to engage in commercial enterprises. The circumstance that virtually the entire navy remains in Rio de Janeiro favors such ventures, and this diversion of interest is naturally harmful to the naval interests. American naval officers can give substantial help to Brazil by helping Brazilian officers gain a more healthy point of view of their service. The younger Brazilian officers are usually alert and keen on the service, but slow promotion and long subjection to the example of older officers takes the edge off their enthusiasm.

In our attitude there must be neither selfishness nor an attitude of superiority. All Latin-America resents our former paternal interpretation of the Monroe Doctrine. We must join the Brazilians as equals, whose superior resources have given us greater experience which we can impart to them, and if we expect them to stand ready to aid us in a time of need, there is an equal obligation on us to give Brazil our moral support in any just contention to which she may be party.

CHILE.

ATTEMPTS AT MEXICAN PROPAGANDA.

10 November, 1922.

During the past two weeks much comment and considerable amusement has been caused in official and political circles in Chile, due to the fiasco of the latest attempts at Mexican propaganda.

As has been previously reported for the past six months the Mexican minister has been carrying on a most extensive propaganda cam-

paign here in Chile, and generally at the expense of the United States; he even having several times overreached the accepted bounds of diplomatic usage and courtesy in his attacks. But his latest attempt seems to have reacted very much on himself and the Mexican Government and people in general. Two months ago he extensively advertised in the public press that the Mexican representatives to the Brazilian Centennary at Rio Janeiro, including the two Mexican warships, the military cadets of Mexico, and the band, were to visit Chile after the exercises at Rio Janeiro were finished. Full and elaborate plans were made for this visit; he even having gone so far as to obtain an option on coal and other supplies for the two warships carrying the delegation when they arrived at Valparaiso.

For various reasons, of which I am informed one was that the ships were so small and unseaworthy it was not considered safe to send them through the Straits of Magellan, the minister was forced to abandon his project of having the Mexican squadron and the military cadets come to Chile. It was then announced that the chief of the general staff of the Mexican Army, Gen. Perez Trevino, and the minister of public instruction, Professor Vasconcelos, would arrive by the Transandine route and spend two weeks in the country.

This modified program was carried out to the extent that these two prominent Mexicans did arrive, but the extensively advertised program for their entertainment was suddenly curtailed and their stay in the country shortened. The reason for the sudden ending of their visit was that as soon as the minister of public instruction arrived, he immediately, in his first address, antagonized the Chilean Government and people in general, and the Chilean Army in particular. The gist of his remarks which created such a sensation was to the effect that armies and navies were generally useless, and as he passed through the streets of Santiago, it amused him greatly to see so many soldiers in evidence. I understand that he even went further than this and his speech was generally of an anarchistic, Bolshevistic, character. He was scheduled to make another address the following day in the auditorium of the University of Chile, but the Government forbade the holding of this conference. The students of the university, nevertheless, drove the guards away from the doors in the entrance to the auditorium, established themselves in it, and then sent a committee or deputation to the hotel and asked the professor to come and make his address to them anyway. This the minister was foolish enough to do.

Naturally, this incident only tended to incense more and more the Chilean Government, and it was intimated to the Mexican minister to Chile that it would be best to terminate the visit of the distinguished Mexicans as soon as possible.

At this time the chief of the general staff of the Mexican Army was making a visit of inspection in southern Chile, and he was politely invited to return to Santiago by the Chilean Army authorities.

Then another incident occurred which only added more excitement to the matter and was the cause of many amusing comments. Amongst the numerous apologies made for the indiscreet remarks of the Mexican statesman, which appeared in the public press, there was a letter written by a prominent Mexican business man, resident in the city, and published in El Mercurio. In this letter the Mexican gentleman tries to explain the indiscreet utterances made by the Mexican minister of public instruction, by claiming that no offense was meant to the Chilean Army, because it is not similar to the Mexican Army which is made up of more or less unscrupulous adventurers. A translation of his letter is as follows:

THE DIRECTOR OF EL MERCURIO:

DEAR SIR: I have read in your newspaper of the 4th inst. the article commenting on the antimilitarism of Mr. Vasconcelos, and in my capacity as a Mexican I beg of you to accept my sincere congratulations on the soundness of your criticism. That which is stated in the article in reference is the undiluted truth of the matter, but a great mistake has been made in conceding so much importance to the origin of this controversy.

Vasconcelos' opinions, since his entering the Madero cabinet, are considered so insignificant in the opinion of Mexico that I am sure they do not even merit the criticism which has been accredited them for their lack of tact in the matter under discussion.

Certainly the ideas which the minister ought not to have mentioned here are in the minds of an immense majority in my country, because there, as in almost all of the Spanish American Republics, with the exception of Chile, Argentina, and perhaps another, militarism is the worst of evils, because in those lands a military man is anyone who is audacious enough and unscrupulous enough to be one. It is just as easy to rise from a day laborer to a colonel as vice versa, and these are the people, with neither morals nor scientific, professional preparation, who generally make up the crowd erroneously called "Army."

The Chilean Army, as is stated in the Mercurio, is just the opposite, and therefore, there is no possible comparison between the two, which fact would partly justify the condemnatory speech of Mr. Vasconcelos were he not a minister and visiting in this good land where he has received such distinguished attentions.

Therefore, Chileans, and particularly military Chileans, please excuse my countryman's error, and believe me that the Mexicans in general, with the greatest of pleasure, would be enthusiastic military patriots for Chile.

If in your estimation, Mr. Director, this letter is worthy of being published, I would much appreciate your deference in having it published.

Very truly yours,

(Signed) JOSE DORANTES HINOJOSA,
Mexican (from Vera Cruz).

The position in which this left the chief of the general staff of the Mexican Army, who I am reliably informed a few years ago was an itinerant photographer, can easily be imagined.

As soon as possible after this incident the official Mexican party left the country and returned to Buenos Aires.

The situation in which the Mexican minister to Chile now finds himself, in view of the very extensive advertising which he had done previous to the arrival of this party, is most embarrassing and may result in his resigning his post.

CHINA.

JAPANESE PROPAGANDA IN CHINA.

6 October, 1922.

Source: Japanese Press.

"What we have said is that if the Chinese will try to manage their own financial affairs it will not be entirely impossible. As to the management of the railways, the Powers should give China their moral support and await the ultimate result. True, this ultimate result may not be as good as if the foreigners and the Chinese had cooperated. The Chinese, however, are developing a national consciousness which the foreigners should respect, even if the final results are not entirely satisfactory. Mr. Lamont said that the establishment of the consortium would save China, but the students have refused to accept such an organization. This shows the trend of thought among the Chinese. So long as it does not affect the peace of the world, the natural thing is to let the Chinese go their own way. Moreover, the Paris and the Washington Conferences showed that no power had any aggressive designs on Chinese territory; and even if any one of them had it certainly would not succeed.

"The only safe policy to pursue in China is that of 'laissez faire.' But the English and the Americans are always trying to interfere in China's internal affairs under the pretext of saving China. The Chinese do not wish to have anything to do with the new consortium, because they fear that the consortium would seize the right of managing the railways. If the foreigners insist on interfering in China's internal affairs then the Chinese will very likely do their best to manage their own roads.

"If the consortium can really do away with the spheres of influence of the foreign powers and thus save China from being partitioned, can stave off foreign control, and can help to secure a good central government, it will be appreciated by all the Chinese. If the Chinese, however, do not develop any national consciousness, but simply rely upon the consortium to avert partition and allow it to

make loans as it pleases, then not only China's finances, but the whole nation will come under international control, of which control the leaders will be England and the United States."

NOTE.—Lately the Japanese-owned papers have been carrying on considerable propaganda relating to—

1. The extension of the Shantung Railway and the building of the Chefoo-Weihsien line and the Kaomi-Hsuchowfu line.

2. An attack on the consortium on the ground that by means of loans it will try to secure control of the railways.

GERMANY.

REPARATION AIRSHIP.

9 November, 1922.

An article appeared in the morning edition of the Berlin daily, Vossische Zeitung, November 8, stating that the keel of the reparation airship now under construction at Friedrichshafen for the United States Navy has been laid, but that the ship can hardly be finished before August of next year. The article stated that it will take this long owing to certain elements of construction, made to meet the wishes of the American experts sent to Germany to be present at the factory during the construction. It was stated that the question of the motors has not yet been decided—whether these would be new Maybach motors as desired by the Navy Department or motors left over from the war. When finished, the ship will first proceed to Spain, stopping at the coast to refuel, and then make the trans-Atlantic crossing to an American harbor. It is estimated that the flight from Friedrichshafen to the port of destination will require approximately 70 hours.

GERMANY.

RANGE FINDERS, GENERAL INFORMATION.

23 November, 1922.

A representative of the firm of Carl Zeiss has stated that the British Navy is now making arrangements with the firm of Barr & Stroud for the manufacture of sufficient range finders (1 meter base, stereoscopic principle) to equip all vessels of the British fleet for use against aircraft. As the firm of Barr & Stroud has up to the present time not manufactured range finders based on this principle, the firm of Carl Zeiss is somewhat skeptical about their ability to manufacture a perfect instrument.

The French Navy desired to receive from Germany sufficient stereoscopic range finders to equip the cruisers which were turned over to France under the terms of the treaty of Versailles, as these were lacking on the ships as delivered. This action on the part of France resulted from the fact that five French concerns were asked to bid on stereoscopic range finders for the equipment of these vessels. The director of Carl Zeiss stated that the instruments as delivered by these concerns were of such inferior quality that the French decided to demand stereoscopic range finders from the German Government as the only method of obtaining same. When questioned regarding these deliveries, the director of Carl Zeiss stated that he did not expect that his concern would make such deliveries, as they had no desire to furnish equipment for the French Navy. This latter statement may be taken with a certain amount of reservation, as the firm of Carl Zeiss has established a subsidiary company in Holland, known as the Nederlandische Instrumente Gesellschaft, which concern is manufacturing optical instruments for naval use and would probably sell to any or all bidders. In this connection it is interesting to note that one of the French concerns which had been asked to bid on stereoscopic range finders approached Carl Zeiss for the construction drawings, but the French offer was refused by Zeiss. The managing director of Carl Zeiss stated further that the French and British Navies had both come to the conclusion that the stereoscopic range finder was the only type that could be used successfully against aircraft. He believed that as the stereoscopic principle was essential for some classes of instruments, they would probably come to the stereoscopic range finder for all work in order to avoid the necessity of two different types of instruments on the same vessel.

GERMANY.

SUGGESTED MEASURES TOWARD STABILIZATION OF THE MARK.

7 November, 1922.

Source: Committee of Foreign Financial Experts, Headed by Prof. Gustav Cassel, of Sweden, and Including American and British Members.

1. We are thoroughly convinced of the urgent necessity of stabilizing the German mark at once. This stabilization is one of the main conditions necessary to save Germany from the threatening complete collapse. It is just as important in the interest of the creditors, whose claims otherwise would lose their value. In case certain concessions are made by these creditors, as we explain below, a stabilization is possible. This must be attained principally, however, by Germany's own efforts and with the aid of its own power and energetic action of its own Government. Under present con-

ditions it is hopeless to expect foreign aid to stabilize the mark as the most important foundation is a constructive policy in Germany, even if dangers are connected therewith. A different method is not open.

2. In reply to the question whether a stabilization is possible under present conditions, we answer: No. First, principally because of the internal effects of the German finance policy during and after the war; secondly, because of external reasons, especially because of the burdens arising from the Versailles peace treaty.

Below we shall discuss the internal measures which are necessary to adopt.

3. With reference to external burdens we believe that so long as Germany is not freed for some time from the payments arising from the Versailles peace treaty, every attempt to stabilize the mark would fail and result in a useless squandering of Germany's last reserves. Such an exoneration therefore is an indispensable preliminary condition.

The length of the period during which payments must not be made will depend on the possibility of gaining a surplus in Germany's budget. The important point is that payments should first then be recommenced if they are taken from an actual surplus and not from a new inflation. We believe that this period must at present be set at at least two years. This postponement of payments must include deliveries in kind as well as gold payments.

4. Every stabilization plan will only be a temporary one so long as a final, prompt, and thorough adjustment of the reparations problem has not been reached. In the meantime we believe that in view of the danger in waiting even a short time, an emergency stabilization must precede the final adjustment of this question.

5. If the above proposed freedom from payment is granted, then the success of a plan of stabilization would not depend on a foreign loan but on producing conditions in Germany and the German budget, as well as on the final adjustment of the reparations problem being made as soon as possible.

Nevertheless the support of an international consortium would have a great effect on the public. We believe that while these plans for the stabilization of the mark are being executed, negotiations should be simultaneously commenced with regard to such assistance—perhaps in the form of credits—and that a committee of bankers should be immediately called together to discuss the foundation of a consortium to cooperate in the execution of the stabilization plan proposed below.

We desire to state explicitly that before the reparations problem has been finally adjusted on a reasonable basis, credits from a foreign

consortium will only be granted Germany in very small amounts and only to support Germany's own measures. A large foreign credit can only then be expected, if those who grant the credits can clearly foresee the situation which will exist when the moratorium has expired. Without such security the proper basis for a loan is lacking.

6. The permanent result of a stabilization of the mark depends on the budget being balanced. On the other hand the stabilization of the mark is also a necessary preliminary condition to secure this balance.

The German ministry of finance has assured us that in case the mark stabilizes and in case the budget is freed from the present extraordinary expenditures, it would soon be possible to balance the ordinary receipts and expenditures. The present money exchange conditions makes it impossible to gain a clear view of the budget. We do not see any reasons for doubting the possibilities that this opinion is correct.

Greatest economy in Government expenditures and greatest energy in collecting taxes are of deciding importance. Investing capital in public works can not be made from current receipts, but must be covered by internal loans. Nevertheless it is neither necessary nor possible to absolutely prevent every increase of the floating debt; and after the mark shall have been stabilized it would be possible for a short time to permit an increase to such an extent as is necessary in order to minimize the present difficulties.

7. We discovered that the chief objection of many experts against every stabilization plan without extensive foreign assistance, was based on an unfavorable criticism of the trade balance. At present there are no bases for a proper study of the statistics. Many contradicting figures have been placed at our disposal and we doubt whether any of them are especially reliable. In order to gain any picture of the extent of the present deficit of the trade balance, we were required to use a different method of calculation.

On the debit side of her payment balance, Germany had to adjust the trade balance deficit, her payments arising from the Versailles peace treaty, and the flight of capital. In lieu thereof there stood at Germany's disposal only limited "invisible exports," foreign credits, and foreign purchases of marks and mark values. These two sides of the payment balance must have been adjusted in some way during the current year. If the trade balance had actually been passive to the extent believed by some people, the purchase of mark values by foreigners would then necessarily have reached a height which exceeds every possibility.

We came to the conclusion, therefore, that the present German passive trade balance can not be so great and that in case the payment balance is freed from the payments arising from the Versailles peace treaty and the coal imports required to replace the deliveries of reparations coal, an adjustment of the payment balance must be possible.

We do not consider the condition of the trade balance as a deciding obstacle against stabilization. Furthermore a sound money value is in itself an effective medicine for an unfavorable trade balance and awakes power which becomes effective in producing an adjustment.

We must admit, however, that several conditions are necessary to readjust the German trade balance without which the practical execution of our plan would be endangered; viz, giving Germany the same rights as other powers in international trade with regard to the collection of revenues on imports of luxuries and giving her most favored-nation rights with regard to her exports. Foreign countries would be much more ready to change the present limitations, if, through the stabilization of the mark German competition in foreign markets would again take on a normal character.

8. From the above we conclude that under the conditions which we demand it would be possible to stabilize the mark with the assistance of Germany's own efforts. Nevertheless we still add that several technical conditions—the large gold reserve, the scarcity of money, the difference between the external depreciation on the one part and the extent of inflation in Germany and the internal depreciation—make it easier to overcome the situation. With an exchange rate of 3,500 marks to the dollar, the gold on deposit in the Reichsbank is equal to twice the value of the paper marks in circulation. That is a condition that has never existed heretofore. No other money system has ever collapsed with an untouched potential reserve of such extent.

9. We would consider it incautious to attempt our proposed stabilization plan any other way than to take a low value for the mark, and this value may be considerably higher than the prevailing one. It is impossible to say at present what rate of exchange should be decided upon. The last sharp depreciation was principally a result of the collapse of confidence, and, in case the above-mentioned measures are applied, a great improvement will immediately take place.

In explanation of our opinion, we desire to state that based on the conditions prevailing at the time that this report is being written (7,000 marks to the dollar) an exchange rate of 3,000 to 3,500 marks per dollar would probably be the correct rate.

One must keep in mind, however, that with such a rate of exchange a considerable increase of the paper money circulation by degrees

will be necessary to such extent as the business life of the country returns to normal conditions. The final rate of exchange must be determined by considering the internal purchasing power of the mark on the one hand and the exchange value in foreign currency on the other hand, after the plan in the second part of our report shall have been put in operation and the principal guiding points have been published beforehand.

Naturally a new uniform value equal to several times the value of the stabilized paper mark must be adopted after the stabilization has been completely executed, in the interest of easing business relations.

PRINCIPLES FOR STABILIZING THE MARK.

1. In consideration for the granting of a postponement of all payments arising from the Versailles peace treaty for the period of two years, the German Government should give the Reparations Commission the following positive guarantees:

(*a*) An independent exchange department will be established in Berlin as a special organ within the organization of the Reichsbank, which would receive an appropriate share of the gold reserve of the Reichsbank for its disposal.

(*b*) So long as a part of this gold is still free, the exchange department will purchase paper marks at an established rate, this rate to be determined by the principles explained in the first part of our report.

(*c*) The total amount of the floating debt shall not exceed a certain sum. Government needs of credit in excess of this sum to be obtained from funded loans.

No change shall be made in these principles without the approval of the Reparations Commission. Furthermore the Reparations Commission on the one hand and the German Government on the other hand would be charged with protecting the deposits of the exchange department from interference.

2. After the approval of the Reparations Commission shall have been received for the foregoing, the following steps would be in order:

(*a*) Invite an international finance consortium to cooperate in the financial reconstruction program.

(*b*) Established currency reserve of the necessary amount on the basis of the gold placed at the disposal of the exchange department, simultaneously with the credits which are granted from time to time on the basis of appropriate securities by the international consortium.

(*c*) The rescission of all currency ordinances and the granting of free and unlimited traffic in currencies and foreign stocks and bonds.

3. The exchange department would buy and sell foreign currency on demand (according to principles of traffic in gold currencies) according to market conditions, for paper marks at official exchange rates and at first would not be permitted to give more than 5 per cent more for the latter rate than the money rate.

4. The Reichsbank discounts rate would have to be sufficiently increased and expensive money would have to be maintained so long until stabilization is secure; on the other hand, commercial exchange would have to be freely discounted and bank credits granted on all ordinary securities for legitimate trade requirements.

5. In order to be able to receive the highest possible amount of unused currencies from the German people for its currency reserves under conditions that produce the necessary confidence.

(*a*) The exchange department would issue gold treasury notes (redeemable in gold), guaranteed by the Reichsbank, to run from one to two years, with an appropriate rate of interest, in consideration for species, etc.

(*b*) The exchange department would pay cash for currencies and sell them again at fixed times with appropriate margins for the individual expirations.

6. As an increase in the paper money in circulation is necessary for the business requirements of the country, paper money would be issued, so far as possible, after normal conditions again prevailed, through—

(*a*) Discounting commercial credits and granting bank credits to commerce by the Reichsbank, and

(*b*) Sale of marks by the exchange department for foreign currencies; and in addition Federal treasury notes, but to the lowest possible extent and not to exceed a period of 6 months, which would be issued to cover the deficit in the budget during the transition period before the budget shall have been balanced.

GERMANY.

NAVAL ATTACHÉS.

21 November, 1922.

It is understood that the interallied naval control commission in Berlin will be dissolved in the beginning of the year 1923, and that at this time the British Government will send a naval attaché to the embassy at Berlin. Commander Wells, at present British naval attaché at The Hague, has been selected for this post.

Germany apparently does not intend to send naval attachés to their various embassies. The principal reason for this is apparently

lack of money as extraordinary allowances would have to be granted to such attachés with a consequent depletion of the allowances for other purposes, as they can not reasonably expect to have their budget increased.

GERMANY.

EXPERIMENTS WITH MAGNETIC CABLE.

18 November, 1922.

The following report is a translation of an article appearing in a magazine by August Engelhardt, of Berlin, on the subject of the "Magnetic cable":

From October 19 to 21 the "Gesellschaft für Elektrische Apparate, Berlin-Marienfelde" (Electrical Apparatus Co.), assisted by the North German Lloyd of Bremerhaven, carried out a series of successful trial trips for the purpose of demonstrating the practical application of a new method of ship navigation to a large and interested circle. The method in question was an improvement on the fairly well-known "electric channel pilot," through the introduction of an optical indicator in addition to the already proposed acoustic method. This novelty is based on a development by Siemens & Halske.

The channel pilot serves to indicate a designated route absolutely independent of conditions of visibility or weather, being based, as wireless telegraphy, on the dispersion of electromagnetic waves in space. By means of this system ships can be piloted through the very thickest fog, along the most complicated routes, and into the most difficult harbor entrances.

The new method is based in short on the following principles: A one-strand cable, fastened at numerous points, is laid on the harbor bottom along the channel which is to be indicated. The beginning of the cable is connected with the pole of an alternating current generator, the opposite pole of which is in the ground. The far end of the cable is also in the ground so that the alternating current passing through the cable is closed through the ocean bottom and the salt water. The cable current and the divided return current generate a magnetic field whose lines of force run in a vertical plane to the direction of the cable. For the sake of greater simplicity, we will assume that the magnetic lines of force encompass the cable in concentric circles. The further distant we are from the side of the cable, the less strength there is to the magnetic field. Therefore this close dependence of the strength of the field on the distance between ship and magnetic cable governs the navigation along the cable.

For the purpose of navigation, a coil having 100 turns (through which the magnetic lines of force pass) is placed on the starboard side of the ship. These lines of force induce a weak alternating current in the coil, of the frequency of the cable current. This, however, is much too weak to give any indication. This current must first be strengthened many times through the well-known reinforcer with high vacuum-cathode tubes. This makes a distinct sound in an ordinary telephone if a proper frequency is selected. The human ear is not capable of distinguishing slight differences in tone, and is altogether useless in this respect when tired. Therefore, in order to dispense with the necessity of the helmsman wearing a head receiver during the entire period in which the vessel is entering or leaving a harbor, it is far preferable to have

an optical indication. The reinforced current is unidirected in special connection in a tube. The negative half waves are suppressed and only the positive ones are left—that is, a rapid succession of continuous current impulses which are caused by the indicator of a galvanometer. In the apparatus used in Bremerhaven, a magnetic field was used which in strength was 10,000 times smaller than that of the magnetic earth field. The cable used was 5.5 sm. long and the magnetic current was evident up to 500 m. to the side of the cable. The distance of the ship from the cable can be gauged by the strength of the tone or optical indication. If one approaches the cable from the sea and there are no other aids at disposition, then the telephone is to be used and the ship is to be steered in such a way that the tone strength increases continuously. As soon as the cable is reached then the optical indication is used. A further advantage can be gained by attaching coils both at starboard and port and by doubling the entire indicating apparatus. (In so doing the two galvanometers are joined together in one box.) If the cable is situated to starboard, then the starboard coil is nearer to it than the port coil—in the first instance a stronger current is indicated—the starboard indicator is more definite than the port indicator. A galvanometer influenced by both reinforcers deflects to the left. This indicator is to be observed only by the helmsman, who must make every effort to keep the middle course in accordance with the ordinary compass system of steering. The indications are always much stronger toward starboard. If the ship deflects slightly from the cable toward port, then the ship must be steered to starboard again or the side of the stronger signals in order to again regain the cable.

In practice, a magnetic cable will be designated for the incoming ships and one for the outgoing, running, for instance, 400 meters parallel to each other. Each cable should be distinctly indicated. This is done by introducing the alternating current in definite Morse rhythm. It is well to have the indications of one cable correspond to the pauses in the other. In this way the alternating current generator can supply both cables at the same time.

Seaward the cables end in distended forks and the ships coming from sea toward the harbor will naturally strike both forks. It is advantageous to have underwater sounders on each end of the cable which give the same signals as the cables appertaining thereto. The incoming ships, therefore, steer onto the sounders and in this way get into the magnetic field of the cable.

GERMANY.

SHIPPING.

2 November, 1922.

Pessimism characterizes nearly every utterance, public and private, of the German shipowner and operator. Quoted propagandist speeches and prepared articles protest to the world the irreparable damage which has been done to German shipping by the war and the treaty of Versailles, declaim the impossible economic situation of Germany to-day, and bewail the handicaps which surround German

shipping on every hand. Yet the great shipping companies at Hamburg and Bremen are launching new vessels, and the modern shipbuilding works at all the North Sea and Baltic ports continue to lay down new keels. During a period in which the United States produces approximately 200,000 tons of new shipping a total tonnage approximating 1,250,000 is brought out by the stricken German interests—the while hundreds of thousands of tons and other flags are lying idle in the great world ports. Such developments give rise to thought and merit some inquiry.

GERMANY'S LOSS OF TONNAGE.

It is not gainsaid that German shipping of itself was ruined as the result of the war. With a gross registered tonnage of about 5,500,000 in 1914, and losses of 2,700,000 tons as the result of war-time operations and of 2,900,000 tons as the result of the provisions of the treaty of Versailles, Germany's tonnage immediately after the war registered the wretched total of 400,000—wretched in the eyes of a nation once second in world shipping circles. And of this total it must be admitted that the greater part was composed of aged vessels, due for scrapping, and of small coastal vessels plying local North Sea and Baltic ports. There was not one ship expressly designed for overseas traffic.

Such a state of affairs, while illustrating the severity of the treaty provisions, rather emphasizes the present situation—a gross tonnage of over 2,000,000 tons to-day—by striking contrast. How is it possible that a nation with a miserable remnant of a grand merchant marine—a few leaky bottoms designed years ago for limited inland seas trade—a nation popularly supposed to be ruined financially, in the doldrums economically, has to-day a merchant marine eighth in size among nations, bidding fair to exceed in a few months its Dutch, Norwegian, Italian, and French rivals, and with even a lesser rate of increase than that shown during the past two years, threatening to overtake that of Japan and to rank third only to America and Great Britain?

DISPERSAL OF GREAT OCEAN LINERS.

How Germany's former ships were taken and disposed of to the profit of competing flags may best be illustrated by a glance at the following tabulation showing the disposition of 32 of the largest vessels, some of which were among the largest and most palatial ocean liners afloat:

Name of ships.	Tonnage.
Canadian Pacific:	
Tirpitz (Empress of Australia)	21,400
Prinz Friedrich Wilhelm (Empress of India)	17,099
Kaiserin Auguste Viktoria (Empress of Scotland)	24,581

	Tonnage.
Cunard Line: *Imperator* (*Berengaria*)	52,022
Compagnie Generale Transatlantique:	
Scharnhorst (*La Bourdonnais*)	8,388
Goeben (*Roussillon*)	8,800
Greek Line:	
Bremen (*Constantinople*)	11,540
Cleveland (*King Alexander*)	16,960
Italian Government:	
König Albert (*Ferdinando Pallasciano*)	10,643
Moltke (*Pessaro*)	12,235
Royal Mail: *München* (*Ohio*)	18,000
United American Lines:	
Prinz Eitel Friedrich (*Mount Clay*)	8,170
J. H. Burchard (*Reliance*) (sale)	19,582
William Oswald (*Resolute*) (sale)	19,563
United States Shipping Board:	
Kaiser Wilhelm II (*Agamemnon*)	19,361
Amerika (*America*)	22,622
Friedrich der Grosse (*City of Honolulu*)	10,688
Grosser Kurfürst (*City of Los Angeles*)	12,642
George Washington (*George Washington*)	23,788
Vaterland (*Leviathan*)	54,281
* *Barbarossa* (*Mercury*)	10,980
* *Kronprinzessin Cecilie* (*Mount Vernon*)	18,372
**Pennsylvania* (*Nansemond*)	13,322
* *Bulgaria* (*Philippines*)	11,440
Prinzess Alice (*President Arthur*)	10,421
* *Prinzess Irene* (*Pocahontas*)	10,352
Hamburg (*President Fillmore*)	10,532
* *Präsident Grand* (*President Grant*)	18,072
Neckar (*Susquehanna*)	9,835
White Star Line:	
Berlin (*Arabic*)	17,324
Columbus (*Homeric*)	33,526
Bismarck (*Majestic*)	56,000

The above-named vessels total an aggregate tonnage of 612,351. Their names alone give an idea of the prestige and reputation carried before the war and their loss was a serious blow, a blow which possibly in some allied circles was felt, or at least hoped, to be insuperable. It is interesting to note that those vessels marked (*) are not in service, according to present information, and all are allotted to the American merchant marine. The regret of a great German shipping owner can well be understood by a review of the above list. The loss of such vessels as the *Vaterland* (*Leviathan*), the *Imperator* (*Berengaria*), and the new-built *Bismarck*, now the *Majestic*, giants of the deep, the ultimate of ship construction, may well have been staggering.

But the present status of German shipping no longer, it would seem to the unprejudiced observer, justifies pessimism. The economic situation of the German Empire may be hopeless, the Ger-

man mark may sound bottomless depths, but among the varied industries and pursuits of Germany it may be held that German shipping has profited and is profiting in an almost unbelievable way in the present European confusion.

GERMANY'S SHIPPING NOW AS COMPARED TO THAT OF AMERICA AND GREAT BRITAIN.

According to Lloyd's latest classification the tonnage figures for Germany, America, and Great Britain are as follows:

	Number of vessels.	Tonnage.
Germany	1,533	1,785,767
United States	3,765	[1] 13,576,640
United Kingdom	8,430	19,088,636

[1] Seagoing.

Ranking between Germany and the United States are France, Italy, Japan, Holland, and Norway.

At the present writing a report has been published which leads to the belief that on September 30, 1922, the German merchant marine amounted to a total of 2,013,500 gross registered tons. This latter figure includes the following vessels added to the merchant navy during the month of September alone:

Vessels launched.

Name.	Tonnage.
Diana	2,000
Robert Koppen	4,000
Else Zelck	2,000
Duesseldorf	8,200
Werra	11,000
Dendera	6,500

Vessels completed.

Sachsen	12,200
Feodosia	5,400
Altair	6,000
Sierra Nevada	4,100
Friederun	4,100
Nord Schleswig	4,300
Antares	6,000
Freiburg	1,800
Hans Hemsott	8,800
Arcadia	2,000
Sonnenfelde	1,400

CONSTRUCTION OF MOTOR SHIPS.

A glimpse at a table showing the German program with particular reference to motor ships may be of interest. The table in question

shows the number of vessels and amount of tonnage, with horsepower, under construction in the month of August, 1922:

Number.	Builder.	Owner.	Gross tonnage.	Engine horsepower.
8		Hapag	48,000	20,000
10	Deutsche Werft, Hamburg		61,000	26,000
2	A. G. Krupp, Kiel	Hugo Stinnes, A. G	6,000	2,800
1	Howaldtwerke, Kiel	Hamburg Süd	14,000	5,000
1	A. G. Weser, Bremen	Hansa Line	9,000	3,200
2	Blohm & Voss, Hamburg	Hapag	28,000	12,000
1	Tecklenborg A. G., Geestemünde	Hansa Line	9,000	3,000
25			175,000	72,000

ACTIVITY OF GERMAN SHIPBUILDING PLANTS.

One of the significant features of the foregoing array of surprising figures is the fact that the entire output listed is turned out of the German shipbuilding works themselves. While the shipbuilding industry is not apparently a necessary adjunct of a successful shipping industry it is undoubtedly of vast assistance to the shipping interests of a country, if additions and repairs can be locally obtained. This has apparently been realized by the Hamburg-American Line, which after many years of patronage of British ship manufacturers before the war had begun to use its home facilities, was gradually more and more withdrawing contracts from British shipbuilders and had established local shipbuilding. The question is worthy further consideration later.

STRENUOUS SHIPBUILDING.

Director Cuno, of the Hamburg-American Line, in a much-quoted article in the Manchester Guardian of last May, uses the following figures to denote activities in shipbuilding this year as compared with that in 1914:

Tonnage under construction (in thousand tons).

	1914	1922
Germany	352	400
England	167	2,299
United States	171	164
France	152	286
Japan	49	117

Experts are contending that there is a glut of tonnage in the world to-day. Tonnage laid up in American harbors is too sad and costly a proof of the contention, and owners and operators need no further evidence in proof of the statement made to that effect by the the-

orists. Additions to the tonnage on hand as presaged by the above and proved by the figures so far as Germany is concerned by the lists of launchings and successful trial trips, as well as by trim new liners in the service of the German lines, would appear to be foolhardy.

Yet Germany with a disrupted currency has the second largest and most ambitious program of all. Director Cuno's figures as given above are much too modest. The present tonnage of Germany given in Lloyds and referred to previously is largely new built. Some of the vessels to be sure were formerly in the German service, were requisitioned by the Allied Government and have been repurchased to form the nucleus of the German merchant navy, but by far the greater amount of the tonnage is new. An increase of from 400,000 to 1,750,000 tons, by actual classification, and to 2,000,000 tons by latest estimates, in a period of approximately two years is an achievement warranting boasts of accomplishment.

CONCLUSION.

In conclusion it may be pointed out that this dogged growth and development of German shipping is taking place during a period when the shipping of other nations is in precarious condition. The period following the war found the world equipped with even millions of tons in vessels which were additional to the pre-war tonnage and which were entirely superfluous so far as the carrying demands were concerned. This situation continues to-day.

Yet on this date as this paragraph is being written, the Hamburg-American Line reports a new large freighter, and the Hugo Stinnes Aktien-Gesellschaft also reports a new passenger freighter, both vessels installed in the oriental service of these respective concerns.

The only conclusions that can be reached are that, regardless of all protestations and statements to the contrary, German shipping is in a prosperous condition and that it is gaining in a drain on the shipping of other flags; that the depreciated condition of the German mark is not a handicap to German shipping and that, on the contrary, German shipping by its very nature is in a position to exploit this debasement to the fullest possible extent; that as the result of this financial status German shipping is at a distinct advantage over its foreign competitors in many respects; that the German Government is bound to see German shipping at least at its former relative level and that it will take any steps within its power to assist the development; and that in competition, foreign shipping, especially British and American shipping operating from national home ports, is unable to-day to withstand the German onslaught at the moment.

It may also finally be admitted that the instability of German affairs is naturally a source of continual worry and uncertainty to German shipping companies. Yet the precarious situation of Germany to-day has not thus far served as a serious handicap, as proved by the phenominal development of the past two years. No attempt should be made to predict the future.

The statement may be ventured, however, that if present economic and financial conditions continue—without revolutionary disorders—German shipping should suffer no real setback. Its position in the event of a stabilization of German and European affairs is speculative, but, reviewing the pre-war prestige and success, there is no reason to predict that its upward progress would be seriously discommoded.

RUSSIA.

AERONAUTICS.

28 November, 1922.

According to recent German newspaper reports, a giant airplane, with movable wings, is under construction at the present time in one of the Soviet factories.

SPAIN.

REPORT OF MELILLA DISASTER.

28 November, 1922.

The publication of the report of General Picasso, who was delegated to make a thorough investigation regarding the disaster to the Spanish Army in Morocco in July, 1921, created a great sensation, and, since the opening of the Cortes, its time has been devoted principally to the discussion of the findings of the parliamentary commission which made a study of the Picasso report.

The report goes into great detail regarding the management of Moroccan affairs and reveals a most deplorable condition of inefficiency and lack of organization and discipline in the Spanish Army. According to the report, the offensive campaign leading up to the rout of the Melilla army in July, 1921, was conducted with an absolute disregard of sound military principles, the organization and equipment of every branch were defective and the army lacked discipline and morale. When the disaster occurred, the army degenerated into a demoralized mob. Officers removed their insignia of uniform, abandoned their posts without waiting for orders and any semblance of military organization completely disappeared. The

report makes specific charges of cowardice or neglect of duty against many officers, including General Berenguer (the commander in chief in Morocco) and General Silvestre, who was in direct command at Melilla.

The responsibility for the disaster is placed, not only on the military leaders, but on the Government officials in power at the time, who, it is claimed by the partisans of General Berenguer, refused to furnish sufficient troops and efficient equipment, and who ordered that the offensive operations be undertaken against his advice. The statement made by a member of the Cortes that the King should be held responsible, as the advance from Melilla was conducted as a result of his direct and personal orders to General Silvestre, has created a great sensation. There seems to be a general and well-founded opinion that this is really the case, though the press and public are well disciplined in Spain, and the King is generally above criticism.

Much political capital is being made over the whole affair, and there are the usual demands in the press that those responsible for the loss of thousands of Spanish soldiers should be punished. However, it is doubtful if the responsibility could be placed directly on any individual. It is all the fault of years of mismanagement of governmental affairs, the corruption and general inefficiency of the army from the top down, and the general apathy of the Spanish people, who accept and tolerate these conditions as a matter of course. It is doubtful if even the disgraceful revelations of the Picasso report will lead to any reforms or improvement in the administration of military affairs.

SWEDEN.

NEW BUILDING PROGRAM.

24 October, 1922.

A commission was organized in Sweden in November, 1920, to study the question of national defense and examine proposals for the reorganization of the army and navy. The report has just been published and the naval proposals are of special interest. The new constructions proposed are as follows:

Three armored coastal ships of a new type, 12 destroyers, 6 submarine (I class), 3 submarines with equipment for mine laying, 22 submarine chasers, 12 motor torpedo boats, and 6 guard boats.

All the above ships are to be finished by 1934. Since the coastal ships must also do duty as cruisers, their measurements will conform to the following:

Length, 459 feet 4 inches (140 m.); width, 49 feet 4 inches (15 m.); draft, 18 feet (5.5 m.); displacement, 6,200 tons; speed, 29 knots.

The armament is to consist of six 8.2-inch (21 cm.) guns which will be mounted in pairs in amidship turrets with one turret in front and two behind, elevated; there will also be six 4.7-inch (12 cm.) rapid fire guns behind protection plates and three 3-inch (7.6 cm.) antiaircraft cannon; three antiaircraft machine guns, and two 21-inch (53.3 cm.) torpedo launching tubes. The armor in the strongest parts is to be 5 inches (127 mm.) thick. This will present an interesting type of ship, although it may be doubted whether such displacement will furnish the necessary speed and offensive power. The torpedo boats are to have 900 tons displacement and 35 knots speed.

The *Sverige* class is to be equipped with modern fire control and all the old armored vessels are to have guns of greater radius. The cost of the proposed program is estimated at 106,150,000 kronen, and the cost of equipping and improving the *Sverige* class at 900,000 kronen and that of fixing up the old armored vessels at 1,200,000 kronen. The reorganization of the naval aeronautics has also been recommended and the price of such reorganization estimated at 1,500,000 kronen.

It remains to be seen whether or not this very extensive program can be carried out owing to the finances of the country. Formerly it was the Swedish people themselves who took the liveliest interest in keeping the country's fighting forces at a maximum and it will be remembered that some 10 years ago the line-ship *Sverige* was paid for by a public collection, since the Government would not authorize the required sum. The collection brought in £1,000,000 and as the construction of the ship only cost £70,000, the balance was used for the sister ship *Drottning Victoria* and *Gustav V*. These three ships show what can be attained with small displacement. Although they have a displacement of only 7,600 tons, each ship has a speed of 22.5 knots (maximum), an armor of 8 inches (203 mm.), an armament of four 11-inch (28 cm.) guns, and a large number of smaller cannon, as well as two submarine torpedo launching tubes.

TURKEY.

THE GREEK RETREAT.

1 November, 1922.

(The following article was written by a naval officer who accompanied press correspondents on a trip into the interior of Asia Minor.)

We left Smyrna on a special train composed of army flat cars loaded with trucks and army accouterments and three coaches—two compartment cars and one dining car.

There was the customary delay, and finally we got started, one hour and a half after the time set. The Italian journalist affiliated

himself with the Americans from the first, and we occupied three sections of a coach, three second-class sections, while the first class were reserved for the Turkish officers. This tended to destroy the unity of the party but soon it was forgotten.

Before we had left the station we were interviewed by various officials and representatives of local Turkish papers. We were informed that we were going to see terrible sights—that we would need perfume because of the smell—that it was like going through hell. Also we were told that we were very unfortunate indeed, for there was no one to cook for us, but that they would do the best they could. That had us worried.

Our first stop was Manemen. As the train pulled into the station we found that we were expected. All of the village was there to greet us. As we descended from our coach we were met by the colonel commanding the troops with his staff, the mayor, the town president, and the village teachers in their white encircled fezzes. We were immediately escorted to seats all carefully arranged in front of the station, tea and crackers served, and then the addresses commenced. The president, through an interpreter, started telling us what he had to show us when he was interrupted by the arrival of Cassim Pasha, a major general in the Turkish Army. As soon as all were again seated and had been supplied with tea and tidbits, the president called upon one of the leading citizens to tell the story of the Greek atrocities.

He started off well, beginning with the 8th of September and telling in detail all that happened or was said during all of the day. He made an especial point of the fact that the Greek priests announced that Mememen would be burned the day the Greek troops arrived. He went on at great length to tell of the measures the Turkish population took to guard against the burning of the city and worked himself into a terrible state of mind, and when it was all finished we learned that nothing had happened to Mememen. They said that the retreating Greek Army did not have time to destroy the village.

But they had an ace up their sleeves. They wished us to go for a little trip into the country where there were the bodies of some Turks who had been murdered by the Armenians, and we must see them. Well and good; we all got into carriages and drove out into the country for about 2 miles and turned into a farmyard. There the party all gathered around an old well which appeared to have been filled with reeds. A soldier in the party, evidently brought for the purpose, took a long pole and began pushing and scraping at the refuse in the bottom of the well. All of the Turks began holding their noses and rushing away from the well. "Do you smell

them?" they asked. "There are 18 of them." We not of the Turkish race all admitted that we did not. Thereupon the soldier went to work again trying to uncover the bodies. After about 15 minutes of pushing and scraping, he appeared very excited and they said he had uncovered a head. Again we looked and again saw nothing. I did smell something, however, but whether it was Turk, Armenian, Greek, or swine I could not say. The Turks had evidently convinced themselves, so away we went back to the train.

I had started from Smyrna anti-Turk and now my sentiments were being confirmed. The whole thing was evidently a propaganda trip, well laid out and all of the actors coached in their various parts We were to see nothing except what they wished to show us and were to hear lots of wild tales without any material evidence being shown us. Believing that to be the case, we just settled back and decided to let them go to it and then we would write as we felt.

After many polite adieus we pulled out of the station, the entire community lining up to see us away. We stood up and rendered very dignified salutes, which seems to be the Turkish custom.

Our second stop was at Magnesia, about 66 kilometers inland from Smyrna, where we were met by the reception committee consisting of all the town and district notables, led by Lieut. Col. Cassim Pacha, a tall, slender, forceful appearing soldier.

He was very well prepared with statistical data, the substance of which was as follows: The population was 50,000, of whom 42,000 were Turks, 8,000 Greeks; 10,700 houses, 13 mosques, 2 baths, 2,728 shops or stores, 19 hotels, 23 residences, 3 flour mills, 5 farms, and 1,740 houses in suburbs had been destroyed, while 3,500 of the Moslem population had lost their lives in the flames; 167 had been wounded while trying to escape from the burning area.

Then we sat down to tea and this story of disaster was related to us. The retreating Greeks had an organized band of incendiaries equipped with machines for spraying oil, and as they retreated through the city they went through the various streets spraying the houses and setting them afire. When the inhabitants came out of their houses and attempted to put out the fires they were shot at, many of them being killed in this manner. Greek patrols covered the city to assure themselves that all of the city was fired before they left.

The main Greek Army did not pass through the city but around it. The damage was done by this organized band who seemed to have no other duties, and it was claimed that the work was carried out under the personal supervision of Col. Turner Poweljn and his chief of staff, Phillips.

As the Greeks retreated they took with them 228 young girls, none of whom has ever come back. After some of them had been raped,

it is said that they were compelled to drink petroleum and they were set on fire.

Having heard the story of the destruction of the city, we started on a personally conducted tour of the city—personally conducted by all of the remaining inhabitants of the city. It had, indeed, been burned and there was very little left. It is hard to conceive of such complete destruction as we saw. Acres and acres were completely wiped out, with nothing left on which to make a start.

Right here it might be well to digress long enough to give some sort of an idea of what these cities were before the fire. The streets were narrow, not over 20 feet wide at the most, and many of them less than 15. Many of the shops and better types of houses were built of brick, with tile roofing, while the smaller, poorer houses were built of mud or clay blocks, reinforced with wooden stringers, and many of them had thatched roofs. They were poor fire risks, as was proven by their condition after the firing of the city. There was nothing except a few tottering walls left.

In one section of the city at a sort of park or open space we came upon a refugee camp where the homeless were congregated. Here we talked with the leading Jew of the community, who told us the same story of the destruction. All of the people in the camp were being fed Turkish army rations, and had absolutely no food nor shelter and only such clothing as they had on their backs.

Having passed through the remains of the village, we were again escorted to our train, where an impassioned address was made by the colonel, praising the work of a French Catholic school, which had been able to save and protect many Turks during the firing of the city, and asking us to observe carefully and write what we saw; to give the Turk his due before the civilized nations of the world.

Our next stop was Cassaba, famous for its melons. We were met by the usual reception committee and a guard, this time the principal speaker being a young Turkish lady. She spoke in perfect French, telling us of their great misfortune and of their present needs, saying that they had neither food nor shelter and were in need of flour and tools and materials to build homes of some sort before the approaching rainy season.

We were told that Cassaba had been a city of 40,000 inhabitants, 37,000 Turks and 3,000 non-Moslems. Of that number, there are now 6,000 remaining in the city, 1,000 killed and burned, the 3,000 non-Moslem residents gone with the Greek Army, and the remainder unaccounted for. There were 2,000 buildings in the city, and all were destroyed except 200.

The story of Cassaba was similar to that of Magnesia. The Greeks are said to have used petroleum to make certain that the city should

burn, and several witnesses testified as to seeing incendiaries, assisted by the Greek and Armenian inhabitants, setting fire to the city.

We made a tour of the city and found conditions as bad as they were pictured. In one dooryard we found two old ladies, one of them at death's door, who were crying because they had lost their daughters. They said that the Greeks had taken them with them.

We heard the same story of rape and loot, murder and wanton destruction, but still we were skeptical. We could see the results of the fire—the complete destruction—but we could not verify the stories of raping and looting. We were still looking for concrete evidence and were not finding it.

We traveled on to Alashehr, dining on the way. Traveling on the Smyrna, Cassaba & Prolongement Railway is not a pleasure. We had started from Smyrna very clean and respectable in appearance, but now we were completely dirty. The dust was so thick that breathing became difficult. We gave up any idea of trying to keep even reasonably clean and gave ourselves over to the dust of Anatolia.

Alashehr was our destination and fartherest point of travel inland. We arrived there about 9.30, and, as it was too late to do much, spent the evening visiting with the major, Emir Fuad, who is the non-military governor of the city. He is a splendid sort of fellow, very pleasant and likeable, and he exerted himself to make us feel that we were very welcome.

First we learned that Alashehr means "The White City." It was the ancient city of Philadelphia, or the "City of Brotherly Love." Alashehr certainly lived up to its name.

The evening was spent in discussing the burning of the city. We were told the fires were started near the market districts and almost immediately fires broke out from every quarter. The Greek civilian population helped the soldiers in firing the city and also wrecked as much of the water supply as they were able. The soldiers robbed and killed the Turks, and many were burned to death in their houses as they dared not venture out for fear of being shot.

While we were discussing the burning of Alashehr the subject of the burning of Smyrna was brought up. We asked them to explain how it happened that Smyrna did not burn until the fourth day after the Turkish occupation and what precautions had been taken to save the city from destruction by fire. The Turkish intelligence officer said that they did expect that an attempt would be made to burn Smyrna, and they believed it would start in the Armenian quarter, so that for the first three days they had kept a heavy patrol in that section. When the three days had passed and all seemed peaceful and secure they had reduced the patrol, and then the fires were set.

Asked why they had expected the fire to start in the Armenian quarter, he said that the Greeks would never dare set it after the excavation of their army, while the Armenians were known to have "vengeance committees" for just this purpose. He said that the Armenians had more courage than the Greeks, and were consequently used by the Greeks for most of the dirty and dangerous work.

The first fire in the Armenian quarter was extinguished by the Turks, but soon after other fires broke out and the fire took charge. Twenty Armenians, all equipped with incendiary bombs, were rounded up by the Turkish patrols.

Then the story of the killing of the Greek high priest came up and was explained in this manner: The priest had paid a visit to Noureddine Pasha, the military governor of Smyrna, and as he was leaving he was attacked by a mob and lynched. This was told us to refute the charge that he had been taken by the military.

We spent the night in the train and in the morning took an army truck to a small hotel well into the suburbs, where we bathed in one of the ancient pools, breakfasted, and then heard the official story of the burning of the city.

The city had a population of 38,000—12,000 in the city proper and 26,000 in the suburbs. Now there are 5,000 left; there were 4,000 houses and now there are 100 standing; there were 3,000 shops or stores, of which but 3 remain; there were 12 mosks and 20 smaller places of worship, of which none remain. The 22 small villages which went to make the suburbs are all wiped out. Approximately 600 known dead were found, while there are thousands missing and it is not known what became of them. Searching parties are still on the mountain side trying to find traces of them.

The Greeks fell back on the town on the 3d and commenced firing it. As in the previous cases, the fires are said to have been set by organized bands of incendiaries. Many of the men in these bands were known and some of them were captured in Smyrna.

Eyoub Helmi, a civilian, testified that several Greek officers were living with him and they had told him that the city would be burned as soon as the Greeks commenced their retreat through that area.

The story continued that the Greek Army fired the town, using oil to assure themselves of a good job, looted and murdered ruthlessly, and then went on their way, taking at least 150 of the young girls with them.

There were several cases of atrocities which were said to have been committed and witnesses were gathered to prove the tale. First we heard of a young girl whose breasts had been cut off. When we asked to see her it was declared impossible. Next a lady was brought in who was said to have gone mad due to what she had

seen. To us she appeared rational. Then a Turkish lady was introduced, who stated that she was a directress of a young girls' school and stated that the Greeks had broken down the schoolhouse, entered and robbed all the young ladies of everything they had, and then some of the Greek irregulars started the girls toward the station. They were able to get away from the irregulars but were then fired upon with machine guns and cut down in the streets. Many escaped into a garden, when about 20 soldiers came along and commenced to beat them. An officer passed that way and the soldiers ran away, but the officer entered the garden and forced them to march down toward the station to a factory owned by a Mr. Forbes, an American. That is the last she saw of the other young ladies, as she was able to escape by hiding in the garden. One girl has since returned, wounded in five places and with a story of her violation. We did not see the young lady and therefore could not verify the report.

The next story we heard was of a young child that was torn in half by two Greek soldiers—but that was not proven to our satisfaction.

Then we were shown a certified and sealed list of 600 known dead. That looked pretty substantial and was considered presentable evidence. It will be noted that up to this time, except for the burned cities, we had not seen nor heard any evidence that would bear much investigation. We were becoming more and more skeptical, wondering if the Turks thought that we were children and would believe anything they told us. We had not seen a dead body nor had we met any wounded persons who had a first-hand story to tell. We were getting fed up with what seemed like the rankest sort of propaganda, but now things were about to happen.

We started on a tour of a village, going up to the highest section of the town, where we could get a splendid view of the desolation of the city. It was most complete. As we walked down through the city we kept insisting that we be shown some concrete evidence of the violence of the Greeks other than ruined buildings. Just then someone spied a burned and charred head, and with great show of finality we were shown that. All of the Turks in the party held their noses and moved quickly away, seemingly unable to view the sight. It was not a pleasant thing, but it was only one head and we were not satisfied.

Then one of the inhabitants said that he could show us graves to prove their statements of the number of the dead. Remember, they claimed that there were 600 dead, and we wanted to check up to some extent. They led us into a vineyard, and there we found a man busily engaged in disinterring bodies so that we should see some real evidence. The graves were shallow with not more than 12 or 14 inches of earth over the bodies, so it was not long before one body

was uncovered. Unfortunately the spade was thrust into one of the bodies during the operation and we had to beat a hasty retreat. I am willing to swear that there were bodies buried there, however.

In our wanderings about the town we visited many mosks, and at one saw the tomb of the builders of the mosk. The bodies were encased and laid on slabs in a reclining position with the fez at the head of the slab. We were informed that the bodies had been there for five centuries and that no possible claim could be laid against the Greeks for their death.

As we were leaving the court in front of the mosque, we noticed a large hollow tree which had been taken as a home by one family. A rude door had been nailed over the hole in the trunk and it made a very comfortable home, not much for room or privacy but infinitely better than no home at all.

We now started retracing our steps, bound for Smyrna again. As we left Alashehr we learned that we were due to meet Mustapha Kemal's train at Salikli and we became very much excited over the prospect. We met the train all right, but as we pulled in his train pulled out and we just had a glimpse of him as he waved to the cheering village folk.

Kemal gone, we became the attraction. The usual courtesies exchanged, we marched down to the Government building corresponding to our city halls, followed by all of the townspeople.

Salikli must have been a real pretty town. The main street was quite wide, perfectly straight, and well shaded. The fact that this street was, was the salvation of what remained of the town. The city did boast of 3,000 houses, of which 2,000 were burned. There were 402 shops, 24 hotels, 16 bakeries, 21 coffee houses, 5 flour mills, 1 moving-picture house, 2 mosques, 1 Jewish synagogue, and 1 Government building, the telegraph office burned. The population had been approximately 10,000, of whom 1,000 were non-Moslems. The non-Moslem population left two or three days before the firing of the town.

The city was burned on the 5th, and to date 76 bodies have been found and buried. About 8,000 people are now in the town, many of them homeless.

The story of the fire followed the same lines as in the previous case. The Greeks came, started burning the city, looted the houses, and shot all who crossed their path.

Many pitiful stories were told of the abuse of the people by the Greek Army, some of which will bear repetition. First, we heard a wounded man, who said that he was in his house when some Greek soldiers entered, robbed him of 600 liras, and then started away, taking his son with them. He tried to reach his boy, and was shot in the side. Another man told a similar tale and showed his wound.

Next a man was brought in whose left ear had been cut off. He said that it was not an accident; that one of the soldiers had held it while he cut it off for amusement. He was robbed before they tortured him.

Next a little boy limped in. He told his own story, sobbing the while, of how he had run out of his burning home and had been shot down by a Greek soldier. Asked if the soldier had aimed at him and fired, he replied that he was near a tree at the time, and the soldier had fired right at him.

Then a man told of how his home had been broken open, one man shot through the throat, another wounded, and he himself shot through the arm. A Greek sergeant had come along and drove the soldiers away, and then turned to and robbed them without any competition.

Another told of how they had killed his 7-year-old daughter, after robbing the mother.

Two women came in and told their stories. One told of how her son-in-law was shot, and the other how her home had been broken open, robbed, and her husband killed. Then a little girl told of how her father had been beheaded, after he had been robbed of 5 liras, and how she had been beaten by the Greek soldiers.

Next an old man crawled in to show how badly he had been beaten. The governor said that this man had been a strong man previously, but that he had been crippled by the beatings he had received.

Most pitiful of all was the story of the next witness, a little boy of about 8 years, who told of how he had seen his 30-year-old brother caught in the street and beheaded. His story caused one of the Turkish reporters, who got it first-hand, to break down entirely, which is not usual with a Turk.

We had heard tales of raping, so the lady in the party investigated that, interviewed one of the girls and confirmed the story.

Now we had indeed some evidences of atrocities, and could not help but believe. Little children could not even imagine such tales unless they had seen them. We saw the wounds themselves and heard the stories of the people themselves who had received them, and we were convinced that there had been terrible doings in the Greek retreat.

There were about 100 other witnesses, all anxious to tell how they had been wounded, and had been mistreated by the retreating army. We had seen and heard enough, but it was with difficulty that we were able to get away without hearing each individual story and examining every wound.

We went to one of the houses that had not been harmed by the fire for lunch, and then made a tour of the town. We saw and smelled more dead bodies, and then we were ready to leave for Menemen once more, where we were to spend the night.

On the way back to the station we saw a large body of men marching along on the next street, so went down to see what was going on. It was a body of recruits from the country marching to a concentration camp to be armed and equipped. They were a hardy looking lot of fellows, of all ages from 20 to 50, and sang as they marched. Evidently Turkey is still mobilizing.

We were informed that they would be equipped with rifles and army gear captured from the Greeks. I suppose that they will be clothed in United States Army uniforms, for all of the Turkish troops that we have seen are wearing the United States Army uniform complete, even to the buttons.

It would be interesting to know where else, except Russia, these Army uniforms could have come from. It would seem a wise precaution to remove Army buttons from all uniform clothing sent to relieve the poor Russian Bolsheviki before it left the United States.

Once more we were off and soon we reached Magnesia, where we found a wire for us, asking that we return to Smyrna immediately to meet Franklin Bouillon, French diplomat, and tell him what we had seen in the interior. He had waited in Cassaba for us for quite a time, and would wait in Smyrna until 9.30, when he must repair on board the *Edgar Quinet* and sail for Constantinople.

Our train was reduced to as few cars as possible, and then all speed was made to get into Smyrna on time. We raced through the dusty corpse-strewn country at all of 20 miles an hour and arrived in Smyrna just too late to meet M. Bouillon.

On the way down we had been informed that if we were too late to meet M. Bouillon we would be taken on board the French flagship to meet him. Now it was too late for that and we were advised that we would have to remain in the station all night before going back to our ships or homes, as there was martial law, and no one was allowed on the streets at night. Some little persuasion was necessary to convince the officials that the same rules which would allow us to cross the city to meet Franklin Bouillon at their request would allow us to return to our own beds for our convenience. After having been refused permission once, suddenly it was decided to let us go, and so, guarded by military police, we ended our trip at the American consulate.

IMPRESSIONS GAINED ON THE TRIP.

I started into the interior anti-Turk, skeptical of all that was done or was shown me. My first experiences did not tend to lessen my doubts or suspicions. I had, indeed, begun to congratulate myself as to my keenness in reading the Turk character. Gradually, as I saw the country, became familiar with the people and

their ways of doing things, entirely different from our ways, I found that my preconceived ideas and prejudices were being overthrown, that the Turk was not so black as some would like to paint him, and that he could be and was quite a decent person. I saw that he had a good case against the Greek, and he was only asking us to show him in his true light and as he really was.

Everywhere I met the same sort of feeling. I was urged to observe, use my own power of judgment, and then to tell the civilized world what I saw. I was urged to remember the moral responsibility that rested upon me as a representative of the press to tell the world the whole truth and let the world judge whether the Turks or the Greeks were the ones who should take the blame for the calamity that had fallen upon the country.

I found the people in the interior destitute of food, clothing, and shelter. They accepted their lot patiently, without the wailing and wringing of the hands characteristic of the refugees we have seen fleeing from Smyrna. Every time we saw a crowd of people it was an orderly crowd. There was no begging, no cries for sympathy; they accepted their lot and only asked for a chance to start again. Their very silence was impressive. It was not sullenness: it was silence. They were interested, eager to do anything that was asked them, but they were orderly throughout.

Their plea was this, that they be presented to the world in their true light. More than that is necessary, however. The rainy season is coming on and they are without shelter; they have no food; they have only the clothes that they are wearing. As Americans we are spending thousands of dollars in the Near East for the relief of the destitute. Now is a chance for us to show our good faith, our political disinterestedness, and our broadness of mind by contributing to the relief of the Turks. There is suffering a plenty here and no aid in sight. Foodstuffs are needed first of all, then shelter, and last of all, clothing.

The Turks evidently think a good deal of the good opinion of America. They show an eagerness to be friendly and to have business relations with us. I have found them extremely friendly and hospitable and believe we would do well to make their better acquaintance.

I am convinced that I was allowed to see all that there was to be seen on this trip into the interior and that every effort was made to show the country in its true state. Undoubtedly the trip was arranged for Turkish propaganda but, as has been remarked before, they have a good case and it should be presented to the world. They have won a great victory by force of arms and now hope to have the world judge them by what they see, not what it may be told by their enemies. Certainly they deserve that chance.

We were then shown the military map of the area included in the Turkish drive. On it were plotted the position of all the Greek troops, regiment by regiment, division by division, 24 hours before the drive started. They held a line from the Gulf of Gemlik to Eskishehr; to Afiun, the Greek headquarters; to Ushak; to Alashehr to Smyrna. They had over 15 divisions on this line, each division of from 8,000 to 9,000 men, with most of force concentrated at Afiun. The Greek commander in chief, Trecopas, was stationed there. Thus the Greeks were holding, or trying to hold, a line of some 300 miles with approximately 200,000 troops. The Turks evidently had their positions well spotted while they claim that the Greeks had no idea of the positions or activities of the Turkish Army.

The first Turkish army hit the line to the south and west of Afiun, driving toward the north, and took the Greeks entirely unawares. They started driving them to the north. The next day the second Turkish army started a drive between Afiun and Eskishehr, driving to the westward, pushing all before them and thereby boxing the headquarters troops between them. The Greeks tried to fall back to their secondary lines of defense but were annihilated before they could reach them. They lost five divisions at this one spot. They had 8-inch guns on the mountains but they never even had a chance to use them.

Meanwhile the third Turkish army penetrated the Greek line between Eskishehr and Brusa, thus breaking the rail communication from the north. Also a cavalry division had broken the line to the south and west of Ushak, thus cutting off communication with Smyrna and this route of escape.

The story was told of the capture of the Greek commander in chief, who was asked why he did not stop the burning and destruction by his troops and whose reply was that he could not control his troops, that they were out of his hands, and that "As they are burning the cities, God is punishing them," whereupon Kemal is said to have ordered him taken away from his sight. Orders were found on several Greek incendiaries to burn all of the villages. Trecopas is being held a military prisoner by the Turks pending court-martial.

PERSONNEL

GREAT BRITAIN, JAPAN, UNITED STATES NAVIES.

Table showing comparative personnel strengths of navies of Great Britain, United States, and Japan on November 1, 1922, with explanation tables and notes.

	United States.			Great Britain.			Japan.		
	Officers.	Men.	Total.	Officers.	Men.	Total.	Officers.	Men.	Total.
Regular Navy (see note 16)[1]	7,707	[2 3 4] 86,512	94,219	[15] 8,217	[16] 84,041	[1] 92,258	[7] 7,705	65,469	73,174
Australian Navy [8]	.....	.....	.....	428	3,814	4,242	.....	.....	.....
New Zealand Navy [9]	.....	.....	.....	4	415	419	.....	.....	.....
Canadian Navy [10]	.....	.....	.....	59	300	359	.....	.....	.....
Royal Indian Marine [11]	.....	.....	.....	251	1,850	2,101	.....	.....	.....
Royal Fleet auxiliary [12]	.....	.....	.....	.....	1,944	1,944	.....	.....	.....
Navy signaling section [13]	.....	.....	.....	18	327	345	.....	.....	.....
Men on yard craft or mercantile agreement [14]	.....	.....	.....	.....	2,143	2,143	.....	.....	.....
Proportion of Royal air force assigned the navy [15]	.....	.....	.....	445	8,100	8,545	.....	.....	.....
Total	7,707	86,512	94,219	9,422	102,934	112,356	[7] 7,705	65,469	73,174

[1] The figures shown are as of October 1, 1922. The Admiralty have announced that the numbers to be retained on March 31, 1923, will be 7,893 officers including 73 naval constructors and 119 engineers and 81,168 enlisted men. This would reduce the total to 9,098 officers and 100,061 men.

[2] Average number of men U. S. Navy borne during the year will be 86,000.

[3] An analysis of the turnover in enlisted personnel for United States shows that the turnover will be approximately 57,000 men, of which 19,000 will be reenlistments and 38,000 first enlistments. In other words, the "turnover" is equal to practically two-thirds of the total enlisted strength. The term of enlistment in the British Navy is for 12 years. About 20 per cent are on their second enlistment.

[4] Includes 490 officers and 3,170 men required for aviation.

[5] Includes 73 civil engineers and 119 naval constructors. Naval constructors and civil engineers are not officers in British Navy, but perform same duties as naval constructors and civil engineers, who are officers in U. S. Navy. British naval constructors and civil engineers are paid from navy votes. Does not include Coast Guard.

[6] Does not include Coast Guard, composed entirely of officers and men who have served in Royal Navy. Coast Guard will probably be reorganized shortly, and upon reorganization the portion of it remaining under the control of the Admiralty will consist of 18 officers and 327 men. The Admiralty have fixed for the Naval Establishment a total of 101,300 (i.e., 98,500 and 2,800 Coast Guard), excluding naval constructors, civil engineers, officers on unemployed or half pay, officers lent to Foreign and Dominion Governments, but including Coast Guards and Marines.

[7] Does not include midshipmen at sea. Midshipmen at sea correspond to ensigns, U. S. Navy.

[8] 109 (known) officers and 400 (estimated) men from Royal Navy are lent to Australian Navy.

[9] 30 (known) officers and 11 (known) men from Royal Navy are lent to New Zealand Navy.

[10] 15 (known) officers and 99 (known) men from Royal Navy are lent to Canadian Navy.

[11] Royal Indian Marines are engaged in running transports. Officers rank with but after Royal Navy officers men are enlisted. This is Naval Establishment of Indian Government.

[12] Royal Fleet auxiliary mans colliers and tankers, includes men and officers. May be reserves or merchant sailors, but perform duties assigned to our Regulars.

[13] To be transferred from Coast Guard. (See note 6.)

[14] See Table II; number given includes men and officers. May be reserves or merchant sailors, but perform duties assigned to our Regulars.

[15] Air Ministry stated to naval attaché, London, that in case of separation of Royal air force into an army wing and a navy wing the line of division would, generally speaking, adhere to the existing division between coastal and inland areas. He furthermore added that in peace time those allotted to the navy would not be less, but likely more than now represented by coastal areas. Total number, 445 officers, 8,100 men. (Radio 0102–2300 May 6, 1922.) It is stated by the Admiralty that the number engaged in naval aviation is 209 officers, 1,154 men. (Radio 1617–1400, October 18, 1922.) Number is varied to suit demands of land or sea operation. Prior to consolidation 30 per cent of the total air force was in the navy.

[16] On October 1, 1922, the following is a comparison of officers and men serving ashore.—United States: Officers, 45 per cent; men, 32.7 per cent. This includes aviation stations, which are not included in British Navy. Great Britain: Officers, 32 per cent; men, 32 per cent. Japan: Officers, 60 per cent; men, 60 per cent.

TABLE II.—*Number of men other than Royal Navy provided under navy estimates, 1922–23, to man auxiliaries and corresponding number of regulars, United States Navy, required for same duties.*

	Great Britain.			United States.		
	Officers.	Men.	Total.	Officers.	Men.	Total.
Colliers and tankers [1] [10]			[2] 1,944	(11)	(11)	(11)
Various yard craft [3]			[4] 1,539			
Ammunition ships (naval armament vessels) [5]			[6] 216			
Victualing yard craft [7]			[6] 78			
Hospital ships [8]	13	97	[6] 110			
Transports [9]	257	1,850	[6] 2,101			
Total	264	1,947	5,988			

RESERVES.

	United States.			Great Britain.			Japan.		
	Officers.	Men.	Total.	Officers.	Men.	Total.	Officers.	Men.	Total.
United States, class 1	385	6,859	7,244						
United States, class 6	4,094	7,136	11,230						
Royal naval reserves				1,644	7,551	9,195			
Royal fleet reserves				0	35,352	35,352			
Royal naval volunteer reserves				166	1,897	2,063			
Japanese naval reserves							[12] 694	[12] 33,400	[12] 34,094
Total	4,479	13,995	18,474	1,810	44,800	46,610	694	33,400	34,094

MARINE CORPS.[13]

United States.			Great Britain.[14]			Japan.[15]		
Officers.	Men.	Total.	Officers.	Men.	Total.	Officers.	Men.	Total.
1,124	19,500	20,524	403	9,388	9,791	0	0	0

[1] Number stated by Admiralty as manning tankers and yard fueling craft, i. e., tankers 1,537, yard fueling, 457, total 1,944. Number provided in Navy estimates, p. 255, is 1,977. In addition, some colliers are time chartered.

[2] The various Naval Reserves of the Dominions are not included in above.

[3] Number shown for British Navy is total numbers provided on pp. 58, 106, 112 of Navy Estimates, 1922–23. Actual number on Oct. 1 unknown.

[4] Estimated.

[5] Actual number on Oct. 1, British Navy, unknown. Number shown is number provided in Navy estimates, 1922–23, p. 127.

[6] Known.

[7] Above is number stated by Admiralty on Oct. 24, 1922, as manning store ships and water boats. Number provided in Navy estimates, 1922–23, p. 44, is 291.

[8] Number shown is number of officers and men to man ships; hospital staffs are excluded.

[9] Royal Indian Marines is number shown in British column.

[10] Japanese tankers manned by navy. Other items of above table not manned by navy.

[11] All manned by regular U. S. Navy.

[12] Whatever reduction of regular personnel is made will represent an increase in reserves.

[13] United States marines 1,877 men, 59 officers serve afloat. Royal marines 4,975 men, 169 officers serve afloat. Percentage of marines serving afloat: United States: Officers, 5.4 per cent; men, 9.2 per cent. Great Britain: Officers, 31 per cent; men, 53 per cent.

[14] Number shown is number announced by Admiralty to be retained on March 31, 1923. Strength of Royal Marine Corps on October 1, 1922, was 483 officers, 9,614 men. Strength of United States Marine Corps on October 1, 1922, was 1,124 officers, 20,382 men.

[15] Eight hundred and fifty marine police under Minister of Marine, who perform same duties as United States marines guarding navy yards.

Remarks on Enlistment.

UNITED STATES.

Enlistments in the Navy are for two, three, and four years. These short periods of enlistment results in a heavy turnover in recruits and discharges each year. It is estimated that 57,000 men will be enlisted during the year, of which 38,000 will be first enlistments and 19,000 reenlistments. An examination of the enlisted personnel of June 30, 1922, shows the following:

Men with less than 4 years' service	68,646
Men with 4 and less than 8 years' service	9,152
Men with 8 and less than 12 years' service	5,169
Men with 12 and less than 16 years' service	3,693
Men with more than 16 years' service	1,920
Total	88,580

Of the above, 58,582 were not over 24 years of age.

GREAT BRITAIN.

On October 1, 1922, the 84,041 men in the British Navy were divided as follows:

(*a*) Serving first enlistment of continuous service (viz, for 12 years)	57,432
(*b*) Serving second period of continuous service (viz, 10 years to complete time for pension)	18,136
(*c*) Short service (5 years) plus 7 years in reserve	4,915
(*d*) Noncontinuous service	1,458
(*e*) Foreigners	1,632
(*f*) Pensioners and miscellaneous	468
Total	84,041

The 1,458 noncontinuous-service ratings are practically all stewards and cooks.

The foreigners consist of 903 foreign natives (Chinese, Kroomen in tropical climates, etc., and 729 Maltese.)

Pensioners and miscellaneous are subdivided—388 pensioners, 80 miscellaneous.

JAPAN.

Enlistment for all petty officers is 10 years (6 years active, 4 years reserve). Other enlisted men is for 12 years. For volunteers—6 years active, 6 years first reserve. For conscripts—4 years active, 3 years first reserve, 5 years second reserve.

The enlistments for 1921 were 16,066. The transfers from active to reserve status were 14,370.

NAVAL PROGRAMS.

November 1, 1922.—Ships building and projected.

NOTE.—No restrictions on any type except capital ships and aircraft carriers.

	Great Britain.		United States.		Japan.		France.		Italy.	
	Number.	Tons.	Number.	Tons.	Number.	Tons.	Number.	Tons.	Number.	Tons.
Light cruisers, first line	4	34,600	10	75,000	21	136,600	3	24,000	2	16,000
Destroyer leaders	2	3,500	0	0	0	0	6	14,400	6	12,270
Destroyers, first line	6	7,450	[1] 0	0	38	49,155	12	16,800	12	11,680
Submarines, first line	6	5,550	34	29,575	16	13,480	12	13,200	4	2,600
					28	([2])				
Fleet submarines	2	3,800	[3] 3	6,375	3	4,500	0	0	0	0
Aircraft carriers	Estimated all powers will build aircraft carriers up to tonnage allowance.									

[1] 12 destroyers authorized but not under contract.
[2] Tonnage unknown.
[3] 6 additional fleet submarines authorized but not under contract.
NOTE.—Aircraft carrier tonnage allowed by treaty as follows: United States, 135,000; British Empire, 135,000; Japan, 81,000; France, 60,000; Italy, 60,000. No aircraft carrier to exceed 27,000 tons, except that each power may build two of 33,000 tons, provided tonnage allowance not exceeded thereby.

Ships retained September 1, excluding those to be scrapped under treaty; ships over 12 years of age not included.

	Great Britain.		United States.		Japan.		France.		Italy.	
	Number.	Tons.	Number.	Tons.	Number.	Tons.	Number.	Tons.	Number.	Tons.
Capital ships	22	[1]580,450	18	[2]500,650	10	301,320	9	194,421	6	143,000
Cruisers, first line	2	34,600	0	0	0	0	0	0	0	0
Cruisers, second line	0	0	0	0	0	0	2	28,200	2	21,000
Light cruisers, first line	41	171,880	0	0	11	54,850	4	19,260	5	21,000
Light cruisers, second line	13	69,230	0	0	0	0	1	3,444	5	17,300
Destroyer leaders	17	29,458	0	0	0	0	1	2,485	6	10,300
Destroyers, first line	178	200,383	295	350,591	54	56,035	20	19,122	27	21,649
Destroyers, second line	6	4,200	21	15,582	12	7,850	24	16,397	16	11,840
Submarines, first line	42	33,740	59	37,120	27	23,538	24	18,403	10	8,040
Submarines, second line	34	14,608	27	10,645	8	2,689	24	9,610	33	9,610
Fleet submarines, first line	6	11,280	3	3,318	0	0	0	0	0	0
Fleet submarines, second line	6	7,200	0	0	0	0	2	3,094	0	0
Monitor submarines	3	4,800	0	0	0	0	0	0	0	0
Aircraft carriers, first line	4	62,590	0	0	0	0	1	24,830	0	0
Aircraft carriers, second line	3	25,900	1	12,700	1	9,500	0	0	0	0

[1] On completion of two new ships to be constructed, Great Britain will scrap four capital ships, and total tonnage retained will be 558,950.
[2] On completion of West Virginia and Colorado, United States will scrap North Dakota and Delaware, and total tonnage retained will be 525,850.

Ships to be scrapped by treaty.

	Great Britain.		United States.		Japan.		France.		Italy.	
	Number.	Tons.	Number.	Tons.	Number.	Tons.	Number.	Tons.	Number.	Tons.
Old capital ships	20	408,500	15	227,740	10	164,000	0	0	0	0
Capital ships under construction	0	0	13	552,600	6	255,800	0	0	0	0

NOTE.—Any of the powers may retain any two ships, which would otherwise be scrapped, for conversion to aircraft carriers, providing displacement of each does not exceed 33,000 tons.

VALUES OF FOREIGN CURRENCIES.

18 DECEMBER, 1922.

Source: Federal Reserve Bank of New York.

Country.	Monetary unit.	Noon buying rate for cable transfers in New York (value in U. S. dollars).	Value a month ago.
Europe:			
Austria	Krone	0.00014	$0.000014
Belgium	Franc	.0661	.0675
Bulgaria	Lev	.006783	.0069
Czechoslovakia	Krone	.030769	.031569
Denmark	do	.2087	.2019
England	Pound sterling	4.6526	4.4903
Finland	Markka	.025075	.0258
France	Franc	.0718	.0720
Germany	Reichsmark	.000131	.000155
Greece	Drachma	.012471	.0147
Holland	Guilder	.4005	.3932
Hungary	Krone	.000431	.000415
Italy	Lira	.0403	.0468
Norway	Krone	.1906	.1831
Poland	Mark	.000056	.00065
Portugal	Escudo	.0436	.0452
Rumania	Leu	.006166	.00655
Serbia	Dinar	.012486	.016029
Spain	Peseta	.1570	.1530
Sweden	Krona	.2693	.2678
Switzerland	Franc	.1899	.1860
Yugoslavia	Krone	.003109	.003997
Asia:			
China	Chefoo tael	.7392	.7408
Do	Hankow tael	.7383	.7400
Do	Shanghai tael	.7123	.7145
Do	Tientsin tael	.7442	.7442
Do	Hongkong dollar	.5352	.5339
Do	Mexican dollar	.5225	.5208
Do	Tientsin or Peiyang dollar	.5392	.5367
Do	Yuan dollar	.5317	.5317
India	Rupee	.3085	.2981
Japan	Yen	.4896	.4841
Singapore (S. S.)	Dollar	.5300	.5206
North America:			
Canada	do	.995694	1.000226
Cuba	Peso	.999375	.998875
Mexico	do	.484792	.495156
Newfoundland	Dollar	.993594	.9975
South America:			
Argentina	Peso (gold)	.8580	.8217
Brazil	Milreis	.1209	.1262
Uruguay	Peso	.8470	.7993
Chile	Peso (paper)	.1238	.1211

OFFICE OF NAVAL INTELLIGENCE.
NAVY DEPARTMENT.
Washington, D. C.

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NUMBER 2—1923.

FEBRUARY, 1923.

DISTRIBUTION:

In general: Bureaus of the Navy Department; all force commanders; all commanding officers of capital ships, the larger patrols, destroyers, and submarines.

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OFFICE OF NAVAL INTELLIGENCE.

MONTHLY INFORMATION BULLETIN.

NUMBER 2—1923—FEBRUARY, 1923.

FOR CONVENIENCE IN ROUTING.

Officer	Initials.	Date received.	Date forwarded
Captain			
Executive Officer			
First Lieutenant			
Navigating Officer			
Gunnery Officer			
Communication Officer			
Engineer Officer			
Medical Officer			
Supply Officer			
First Division Officer			
Second Division Officer			
Third Division Officer			
Fourth Division Officer			
Fifth Division Officer			
Marine Officer			

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GREAT BRITAIN.

BRITISH GARRISONS IN IRELAND.

30 December, 1922.

On December 17 the last of the British garrison of Dublin was evacuated and sailed for England. The only British troops now left in southern Ireland are four batteries of Royal Garrison Artillery manning the coast defenses of Queenstown and two batteries in the coast defenses at Berehaven. These troops will not be evacuated, as it is provided in the British-Irish treaty of 6 December, 1921, that the former will keep control of certain coast defenses, including Berehaven, Queenstown, Belfast, and Lough Swilly. The defense forces of the Irish Free State, according to the latest information available, consist of about 30,000 men, of whom an unknown proportion are well armed and equipped with British rifles, revolvers, and machine guns. On last May the British Government had handed over to the Irish Free State 4,000 rifles, 2,200 revolvers, and 6 machine guns with corresponding amounts of ammunition; and this supply, although it has been suspended from time to time as conditions in Ireland grew uncertain, has probably been carried on up to the present time. According to the British-Irish treaty mentioned above, the military force of the Irish Free State " shall not exceed in size such proportion of the military establishment maintained in Great Britain as that which the population of Ireland bears to the population of Great Britain." Considering the fact that Ulster has decided not to join the Irish Free State this will put the strength of the latter forces between 25,000 and 30,000.

The British forces in Ulster consist of 14 battalions of infantry, with auxiliary troops, a total of 10,000 to 11,000. Besides the British troops in Ulster, there are local defense forces of various degrees of training and equipment whose total number is probably between 20,000 and 25,000. The nucleus of this force is the so-called " C–1 " Special Constabulary, which in July consisted of about 1,000 men fully armed and equipped.

GREAT BRITAIN.

CRUISE OF ATLANTIC FLEET.

19 December, 1922.

Orders have been issued for the Atlantic Fleet to reassemble at Portland at the expiration of Christmas leave. On January 10 the

fleet will leave there for a cruise in southern waters, returning to England on April 3.

The Battle Cruiser Squadron, First Light Cruiser Squadron, and the various flotillas will cruise independently; the Battle Squadron first visiting certain Spanish and Portuguese Atlantic ports, and subsequently the Canary Islands, Teneriffe, and Madeira; whilst the Battle Cruiser Squadron after calling at Gibraltar will visit Spanish Mediterranean ports, returning home via Spanish Atlantic ports. The First Light Cruiser Squadron will proceed from Gibraltar to Madeira and the Canaries, touching at Casablanca, Morocco, and Spanish Atlantic ports on the return voyage.

The cruise of the Fourth and Fifth Destroyer Flotillas will include visits to Spanish, Mediterranean, and Atlantic ports; whilst the cruise of the First Submarine Flotilla will be confined to Gibraltar, Vigo, and Arosa Bay. The Second Light Cruiser Squadron, two destroyer flotillas, and one submarine flotilla of the Atlantic Fleet are still on detached service in the eastern Mediterranean.

Destroyer flotillas manned by reduced crews will not take part in the cruise.

GREAT BRITAIN.

H. M. S. EAGLE.

4 December, 1922.

An opportunity was recently afforded to see from the dock H. M. S. *Eagle*, now being fitted out at Portsmouth dockyard. Permission could not be obtained to go aboard this vessel. It was stated, however, that this vessel will be completed and ready for service about April 1, 1923.

The *Eagle* carries 7 guns of apparently 4 or 5 inch caliber. There are three on each side and one at the stern on the deck below the landing deck. On the landing deck are 2 antiaircraft guns behind the funnels, which are on the starboard side of this deck. The landing deck projects about 8 feet beyond the side of the ship amidships, and much more than this at both bow and stern. The stern of the landing deck is built up with a ramp. It was stated that this ramp was used for fastening the wires for the arresting gear.

The landing deck is of steel and is carried by heavy girders with supports to the main deck. It is understood that the arresting gear is permanently installed on this deck when the ship is in commission and does not have to be removed in order for planes to get away. This ship has been fitted with a bulge which, in addition to protection, gives added stability in order to carry the heavy flying deck.

GREAT BRITAIN.

NEW BATTLESHIPS.

December, 1922.

On December 12, the Admiralty issued the following particulars regarding the construction of the two new battleships:

The hull of the first ship will be built on the Tyne by Messrs. Armstrong, Whitworth & Co. (Ltd.), the engines and boilers being made also on the Tyne by the Wallsend Slipway & Engineering Co. (Ltd.).

The hull and machinery of the second ship will be built on the Mersey by Cammell Laird & Co. (Ltd.), whilst the armor is to be manufactured at Sheffield, Manchester, and Glasgow. The guns will be made at Newcastle-on-Tyne, Sheffield, Barrow, Manchester, Glasgow, Darlington, and Woolwich, and the gun mountings at Barrow and Newcastle-on-Tyne.

The daily papers stated that as many as 500 firms will be engaged in helping to supply the necessary material. Many thousands of men, now unemployed, will ultimately be provided with work.

The following information regarding the features of these battleships was gathered from reliable sources and is believed to be correct.

The contract price of these ships is about £6,000,000 apiece. The contract time for completion is three years. The displacement of each vessel will be 35,000 tons; length, 660 feet; beam, 106 feet; speed about 23 knots. These vessels will be oil-burning, driven by turbines with reduction gears, and will have a greater cruising radius than any previous British battleship. It is reported that these vessels will have a great cruising radius in order to allow them to operate in the Pacific and other foreign waters. Each ship will carry nine 16-inch guns, mounted in three turrets, three guns to a turret. Two of these turrets will be on the forecastle, No. 2 firing over No. 1. The third turret, it is believed, will be between the conning tower and built up bridge structures and the funnel, so that there will be practically no astern fire. A heavily armored citadel will inclose the barbettes of the three turrets, the conning tower, and possibly the uptakes to the funnel.

No definite information has been received as to the side armor, but it is believed that the main belt will be 13 inches, tapering top and bottom, and also tapering forward and aft. The upper deck will be armored as a protection against plunging fire and aircraft bombs. It is also believed that two additional armored decks will be fitted, one at the top and one at the bottom, on the main armor belt. The thicknesses of these three decks are not known.

It is believed that the secondary battery and the antiaircraft battery will be the same as that previously intended for the superhoods; that is, twelve 6-inch guns, six on a side, mounted in three 2-guns turrets, and twelve 4-inch antiaircraft guns mounted in pairs.

Torpedo tubes will be installed on the upper deck in triple-tube installations. The divergence between these tubes will be about 1°, so as to give a dispersion to the torpedo fire. The number of tubes that will be carried is not known, but it is believed that the 21-inch Whitehead torpedo will be retained for these ships.

The quarter-deck will be large and free from obstructions, and it has been stated that this deck could probably be used for flying off or a landing deck for airplanes.

The bulges of these vessels are designed to come inside of the hull, which will give them better streamlines and obviate the difficulty in tying these ships up to wharves or piers.

The turrets will be operated by the hydraulic system. The steering gear will be hydraulic, and it is believed it will be practically the same as that intended for the **superhoods,** which was covered fully by naval attaché's report No. 00076 of 3 February, 1922.

No special provision has been made for protection against gas attacks, other than that the ventilating system can be shut down, and voice tubes leading to important positions are fitted with diaphragms.

A number of compartments below the water line will be fitted with permanent electric submersible pumps. A number of portable submersible pumps will also be provided. It is believed that all of these pumps will be of the Reid-Cooper type.

GREAT BRITAIN.

NEW MINE-LAYER BUILDING.

11 December, 1922.

Work has been started on the new cruiser mine-layer at Devonport. It is understood this vessel will have a displacement of about 7,000 tons, will be about 500 feet long and 58 feet beam.

GREAT BRITAIN.

RETIREMENTS OF COMMISSIONED PERSONNEL OF NAVY.

December, 1922.

Below is summarized recent information regarding the weekly commissioned strength of the British Navy. The detailed figures for admissions, deaths, dismissals, etc., are not at hand.

Date.	Active list.	Retired during previous week.
28 Oct., 1922	8,825	14
6 Nov., 1922	8,755	70
13 Nov., 1922	8,706	13
20 Nov., 1922	8,656	50
27 Nov., 1922	8,641	15
4 Dec., 1922	8,634	7

GREAT BRITAIN.

VISIT TO DEVONPORT DOCKYARD.

12 December, 1922.

The principal work at this yard at present is the fitting out of the air carriers *Hermes* and *Furious*. Very extensive repairs and alterations are being made to both of these vessels, and it is understood the *Hermes* will be ready for sea about July 1, 1923. No information was gained as to when the *Furious* will be ready. The *Furious* is practically stripped at present, and work is going ahead on the construction of her flying deck, and the building up of the supports and upper works. Visitors were not allowed to go aboard these vessels or spend any time in their vicinity. It was stated by the construction officer, however, that, in rebuilding the *Furious*, there would be no island, and that the chart house was to be raised and lowered, and that smoke would be handled by two funnels straight aft with assisted draft.

The *Hood* is at the dockyard for a short overhaul and to give liberty to her officers and crew after her return from Brazil. Inspection of this ship consisted in going over the boat deck, upper deck, main deck, and engine room. Opportunity was also afforded to visit the conning tower, but *not* the fire control part of it. It was noted that the slits in this conning tower are about 3 inches wide and 4 to 5 feet long. The fire control tower is in a separate armored tube inside of the conning tower. It was noted that the *Hood* has four above-water torpedo tubes, two on each side of the main deck forward. In British nomenclature the main deck of this vessel is one deck lower than that of our vessels.

It is very evident that the officers detailed to show visitors over the yard had received definite instructions as to what should be shown them and what should not, and consequently very little of interest was learned during this visit. The yard, however, is apparently filled up with work, and all of the shops are busy. Besides the two aircraft carriers mentioned above, considerable work is being done in fitting out several of the "H" class submarines, as well as ordinary refit and repairs to light cruisers, destroyers and other types of vessels.

GREAT BRITAIN.

TARGET PRACTICE NOTES.

December, 1922.

During long-range target practices of the British Fleet, the major caliber guns are now fired in "double guns salvos," which means that the entire battery of main caliber guns is fired simultaneously.

The battle practice firings of the British Fleet are now conducted at extreme ranges, fire being opened at 30,000 yards.

JAPAN.

EXAMPLE OF ANTI-AMERICAN PROPAGANDA.

October, 1922.

(The Tsinan Jih Pao is a Japanese-owned newspaper published in the Chinese language at Tsinan fu. It is circulated and read largely by Chinese university students and by the educated Chinese people.)

The Tsinan Jih Pao for October 28 published the following vicious attack on the United States:

Still worse is the treatment the United States meted out to Japan. At the Washington Conference, for instance, the United States proposed the 5 : 5 : 3 ratio for the naval forces of the United States, Great Britain and Japan on the basis that it was really the existing ratio. But as a matter of fact, her own naval force and that of Great Britain were not nearly the same, and the settlement of the naval ratio is a striking success of the shrewdness of the American diplomats. Moreover, the American and Japanese naval forces, as the naval experts of the latter country said, stood at the ratio of 5 : 4, while the American naval experts averred that the existing ratio was 5 : 2½ or 3. This difference, however, was due to the fact that the Japanese have a different way of keeping their statistics. When the Japanese experts wished to appeal to public opinion for a reconsideration of the ratio, they were persuaded by the Americans not to go to an extreme on the plea that the question of the ratio could be determined at leisure. Another American representative said that the naval ratio would be easy to settle if the Japanese were far-sighted enough to promote friendly relations between the United States and Japan. From this we conclude that the proposed ratio by the American delegates was neither fair nor reasonable. But real friendship can not be brought about nor can the struggle be avoided unless the two countries are equal in their naval forces.

Moreover, a struggle between the powers is unavoidable unless they both abandon capital ships, because these upset the balance of power which is apt to lead to disputes. A few days ago an American paper in one of its articles said, "The thing that the United States was afraid of was the Anglo-Japanese Alliance, and as this alliance no longer exists the United States has nothing to fear." This article reveals the real American attitude. For example, the Island of Cuba was annexed by the Americans in 1898 with certain military privileges. At the Washington Conference they said that it was absolutely

necessary to keep a strong defensive force in the island; but in the case of Hsiao Cha Yuan (?), owned by Japan, they said such a force was not necessary. Moreover, with reference to shipbuilding the Americans proposed that no more capital ships be built within the next 10 years; but they themselves have built two large ships, the *Washington* and the *Colorado*, within that same period. Furthermore, the Americans proposed that no vessel exceeded a displacement of 35,000 tons. This limitation is also to their own interest, because no ships above 35,000 tons can pass through the Panama Canal, which is only 110 feet wide and 30 feet deep.

From the above we can clearly see what is the American attitude and what shrewd diplomats they are in international affairs. They compel other countries to practice righteousness while they have all sorts of base motives. On January 10, 1922, the American Secretary of the Navy said that the American Navy should not be smaller than that of any other country. Can international friendship be promoted when one country, that always boasts of its own righteousness, does such unfair things? International friendship can not grow unless every country receives the same treatment. Anglo-French relations prove that this is so. If the United States continues her unfair policy much longer, like Germany she will be deserted by the whole world.

JAPAN.

FIELD MANEUVERS.

16 December, 1922.

During a period of eight days in October special field maneuvers were held near Mount Fuji by certain selected Japanese Army units from six divisions, with probably about 20,000 men and over 500 umpires participating. As foreign observers were not permitted, definite detailed information is not available, but the following summary is believed correct.

The purpose was to try out the provisions of the new Infantry Drill Regulations, and especially to test the powers of new-type weapons in order to increase the fighting efficiency of units, made necessary by the reduction in army personnel.

The defense was formed in three lines covering a front and depth of about 2½ miles each. Trenches and bombproofs were carefully constructed, all manner of wire and other communications established and a thoroughly prepared defense position laid out.

A newspaper description of the bombproof shelters states that they were made of iron plates covered with earth to a depth of more than 6 feet, the entrance being closed with india rubber so as to make the shelter proof against both artillery fire and poison gases. The interior was supplied with underground audiphones, electric draining machines, electric ventilators, vertical periscopes, instruments showing the presence of poisonous vapors, and heliographs.

The offensive is described as forming its artillery in eight lines. The first line, trench mortars for destroying wire entanglements; second line, heavy trench mortars for destroying trenches; third line, mountain guns for opposing hostile machine guns and infantry troops; fourth line, field guns for forming smoke screens; fifth line, howitzers for firing on hostile artillery and destroying important points of the enemy's fortifications; sixth line, 10-cm. guns for destroying the hostile artillery position; seventh line, 24-cm. howitzers for long-range firing; and the eighth line, 15-cm. guns for operation against hostile artillery at long range. Antiaircraft guns were used at various points. Wire was laid down to protect the infantry against counterattack.

In conducting the attack, various positions were vigorously fired upon, the defending troops being withdrawn temporarily and the results carefully examined by umpires and in some cases works reconstructed by troops on the defense before further attack.

Four days were consumed in the capture of the first line. Saps were used and wire entanglements and works were destroyed by shelling. Three small French tanks participated and in the final rush the attacking troops were described as wearing steel helmets and carrying shields of various types. In the final closing in, flame throwers and hand grenades were employed by both sides. Numerous searchlights were used at night.

A notable point mentioned in newspaper reports was the employment of smoke screens both by the offensive and defensive troops.

The second line was captured two days after the first line, the advance being gradual and the final dash being less than 100 meters from a gap constructed on the flank. The maneuvers were ended after the capture of the second line.

All manner of communications appear to have been employed including captive balloons, air squadrons on both sides, telephones, telegraphs, underground telephones, radio, pigeons, dogs, and hand flags. Signal fires, heliographs, and electric flash lights were used for signals.

The true results of the maneuvers are not made known. In the destruction of a fortification of reinforced concrete by a 24-cm. howitzer it is stated that 20 hits out of 200 shots were made on the works. The exploding shells were reported as emitting a black smoke.

Undoubtedly the Japanese Army was at tremendous expense in carrying out these maneuvers and they far surpass in military importance the Grand Maneuvers of which foreign observers will make detailed reports.

JAPAN.

MISCELLANEOUS NOTES REGARDING NEW CONSTRUCTION.

Source: Japanese Press.

The Japanese tanker *Hayatomo* was launched at the Kure Navy Yard on 4 December, 1922. The *Hayatomo* is reported to be 15,400 tons displacement with a cargo capacity of 9,000 tons of oil.

This vessel was laid down in March, 1922.

The Japanese light cruiser *Abukuma* was launched on 1 December, 1922, at the Uruga Dockyard. The displacement of the *Abukuma* is 5,500 tons.

The Japanese destroyer *No. 7* was laid down at Maizuru on 2 December, 1922.

The Japanese tanker *Iro* has been placed in commission and will leave Kure naval station 10 December, 1922, on her maiden trip, for Tarakon to take on a cargo of fuel oil.

JAPAN.

ORGANIZATION OF JAPANESE FLEET.

6 December, 1922.

Source: Japanese Press.

FIRST FLEET.

First Division (4 battleships)—*Nagato, Mutsu, Ise, Hyuga.*
Third Division (3 light cruisers)—*Oi, Kuma, Tama.*
First Torpedo Division—*Tatsuta,* flagship. 4 flotillas:
Twenty-fifth Flotilla—*Nashi, Take, Momi, Kaya.*
Twenty-sixth Flotilla—*Kaki, Toga, Nire, Kuri.*
Twenth-seven Flotilla—*Hishi, Ashi, Warabi, Sumire.*
Twenty-eighth Flotilla—*Tade, Hasu, Yomogi, No. 2.*
First Submarine Division—*Chikuma,* flagship. 4 flotillas:
Fourth Flotilla—*Nos. 28, 29, 30.*
Sixth Flotilla—*Nos. 47, 46.*
Seventeenth Flotilla (vessels not completed).

NOTE.—Second Division of First Fleet not to be organized. Aviation depot ship *Hosho* to be attached to First Fleet upon completion.

SECOND FLEET.

Fourth Division (3 battle crusiers)—*Kongo, Hiyei, Kirshima.*
Fifth Division (4 light cruisers)—*Natori, Nagara, Kinu, Yura.*
Second Torpedo Division—*Kitigami,* flagship. 4 flotillas:
First Flotilla—*Namikaze, Nokaze, Numakaze.*
Second Flotilla—*Shiokaze, Tachikaze, Yukaze, Hokaze.*
Third Flotilla—*Minekaze, Sawakaze, Yakaze, Okikaze.*
Fifth Flotilla—*Shimakaze, Hakaze, Akikaze, Nadakaze.*

Second Submarine Division—*Yahagi*, flagship; *Kawasaki*, depot ship:
Fourteenth Flotilla—*Nos. 19, 20, 23.*
Sixteenth Flotilla—*Nos. 34, 35, 36.*
Twenty-fourth Flotilla—*Nos. 48, 49, 50.*

NOTE.—Aviation depot ship *Wakamiya* to be attached second fleet next spring.

FOREIGN SERVICE FLEET.

Cruiser *Tsushima*, gunboats, *Ataka, Saga, Toba, Fushima*, (*Seta, Katata, Hira, Hotsu*, to be assigned this fleet upon completion).

JAPAN.

RANGE FINDERS SUPPLIED NAVY.

December, 1922.

Twelve range finders have been supplied the Japanese Navy by the Bausch & Lomb Optical Co. All range finders were 20-foot range finders, either Mark X Modification 4 or Mark X Modification 5. Eight of these range finders were supplied the Japanese Navy in December, 1916, through their agents, Takato & Co., of New York, and four were supplied through the same agency in October, 1918. The latter delivery was authorized by the Bureau of Ordnance.

It is reported that these range finders were not of the highest quality supplied by the company.

JAPAN.

STATEMENT OF FOREIGN OFFICE REGARDING NAVAL AND MILITARY REDUCTIONS.

27 November, 1922.

Immediately after the conclusion of the Washington Conference and even before the Imperial ratification of the naval treaty growing out of that conference, the Japanese Government suspended the construction of the capital ships *Kaga, Tosa, Amagi, and Akagi.* When the naval treaty had been ratified, preparations were at once taken for scrapping the other vessels to be disposed of under the treaty, viz, *Settsu, Aki, Satsuma, Katori, Kashima, Kurama, Ibuki, Ikoma, Hizen, Mikasa, Shikishima, Asahi, and Fuji.* These preparations were made in order that those vessels could be promptly scrapped when the naval treaty should have taken effect; and now they are already divested of the greater portion of their armament, and manned by only a small number of men, sufficiently for preserving order, they are waiting for the coming into force of the treaty. Under the provisions of the treaty the armament and armor of the *Fuji* has been removed and she has been made a special service boat.

It needs scarcely be said that the Japanese Government will scrupulously observe the restrictions imposed by the naval treaty on capital ships, airship carriers, etc., nor need it be said that the Japanese Government will adhere to the spirit of the treaty in building auxiliary ships. In this connection a comparison may with advantage be made between the newly contemplated and reduced program and the 8-8 program which was framed through many sessions of the Diet up to and including the extraordinary session of 1920. The auxiliary ships which were to have been completed by 1927 under the 8-8 program are as follows:

(*a*) *Cruisers.*—Those completed after *Tatsuta* and *Tenryu*, "but including these ships" and those already ordered numbered 17, and those not yet ordered numbered 9, making in all 26 vessels, totaling 146,750 tons. Among these ships were 4 of 8,000 tons each.

(*b*) *Destroyers.*—Those completed after *Kawakaze*, *Tanikaes*, *Naru*, and *Kuwa* "but including these ships" and those already ordered numbered 57, and those not yet ordered numbered 22 first-class and 15 second-class destroyers, making in all 94, with a total of 102,566 tons.

(*c*) *Submarines.*—Those completed or already ordered numbered 47, and those not yet ordered 48, making 93, with a total of 82,852 tons.

These vessels were under a program which took several years to frame and naturally lack uniformity in style. While decreasing the number of ships, it is intended somewhat to enlarge the size and to standardize it, and also to discard old ships in order to reduce future expenditures. The new program has not yet been definitely decided upon, but its general outline is as follows:

(*a*) *Cruisers.*—Four of about 10,000 tons each and 4 of about 7,000 tons each, totaling 8, with about 68,400 tons gross.

(*b*) *Destroyers.*—Twenty-four first-class destroyers totaling 33,000 tons gross.

(*c*) *Submarines.*—Twenty-two totaling 28,166 tons gross.

Under the old program an increase of only 20 per cent was provided for in the appropriation to cover the great rise in prices. Under the new program it is intended to rectify that percentage so that the deficit can be covered. But this means no increase of expenditure. The new program is to be carried through within the appropriations of the old program. When the old and new programs are taken together it will be seen that the vessels to be built under the new program as compared with that portion of the 8–8 program which has not yet been placed on order, show a decrease of 38 in number, totaling 13,395 tons.

The number of men and officers to be discharged as a result of the scrapping of capital ships and other measures of armament restriction totals about 12,000. This does not include mechanics and laborers employed at dockyards, 6,000 of whom have already been dismissed.

ADJUSTMENT OF NAVAL STATIONS.

The Japanese Government contemplates the adjustment of first-class naval stations and minor naval stations in connection with the limitation of armaments provided for by the Washington treaty and for economy of expense, the gist of that decision being announced on July 5, 1922, as follows:

MAIDZURU.

The Maidzuru naval station is to be converted into the Maidzuru minor naval station. The Maidzuru naval station jurisdiction, personnel department, department of accounts and supplies (excluding part of clothing and provision section), building department, prison, court-martial, and the naval barracks are to abolished. Minor naval station jurisdiction is to be established at the Maidzuru minor naval station. The arsenal, port affairs department, hospital and clothing and provision section are to be retained for the minor naval station jurisdiction, with necessary readjustments.

The defense corps and the radio station are to be retained without any radical change.

CHENKAI.

The Chenkai naval station is to be abolished and the Chenkai minor naval station to be established in its place. Minor naval station jurisdiction is to be established at the Chenkai minor naval station.

PORT ARTHUR.

The Port Arthur minor naval station jurisdiction is to be abolished. A defense corps and the radio station are to be retained.

OTHERS.

The minor naval station at Takeshiki and Yengheung are to be abolished. The system of dividing the country into five naval districts is to be changed into a system of three naval districts.

It is intended that the changes mentioned above concerning Maidzuru, Chenkai, Takeshiki, and Yengheung, and the changing of system of naval districts shall be carried into effect about April, 1923, and those at Port Arthur about December, 1922.

ARMY REDUCTION.

In conformity with the spirit of the Washington Conference, the Japanese Government has the intention of readjusting its army and has been consistently considering ways and means of carrying out that idea.

A program was framed and the first part of it was carried into effect on August 12, 1922. The number of men and officers to be discharged under the program is as follows:

Officers	1,800
Noncommissioned officers	3,000
Men	53,000

In order to curtail Government expenditures, the six battalions of troops garrisoned along the railways in Manchuria and the extra contingents attached to the divisions in Korea are to be abolished. This will mean further reduction to the extent of 400 officers and 5,000 men. Taken all in all, it means that the Japanese Army is to be reduced by approximately one-fifth.

FRANCE.

NEW WIND TUNNEL CONSTRUCTED.

19 December, 1922.

1. The French Government has constructed a wind tunnel at Issy-les-Molineaux to give an air stream 3 meters in diameter at a speed of 80 meters per second, arranged to make tests of models up to $2\frac{1}{2}$ meters span. This tunnel is nearing completion and will probably be given preliminary tests in January or February.

2. One of the high officials of the section technique stated in conversation that they expect great results from this tunnel. He stated that they were not satisfied with the experiments on full-scale models conducted by a railroad and car at St. Cyr. He stated also that he thought with the successful operation of a wind tunnel of the size of this one, full-scale tests would not be necessary to undertake. He said further that he did not consider compressed-air tunnels necessary at present, but this latter statement seems to be based somewhat on prejudice.

3. The tunnel is built in an old steel hangar and is concrete casting sunk in the floor about 8 feet. Stream lining of all parts has been attempted, but due to considerable obstructions in the hangar itself and the small size of the hangar as compared with the tunnel, turbulence will probably give trouble at high speeds especially.

4. The testing stand is a movable steel framework and is in an open compartment between the mouth of the tunnel and the venturi. In passing through this room the wind stream diverges a very small

percentage, according to a statement of one of the attendants, and the entrance and the venturi back of the testing stand are enlarged to care for this stream.

5. Power is supplied by 1,000-kilowatt direct-current motor driving a propeller about 15 feet in diameter. The propeller is fitted with six variable pitched blades and has a stream line spinner at the center about 7 feet in diameter.

ITALY.

CAPRONI SEAPLANE.

8 December, 1922.

1. The following are the characteristics of the 1922 type of Caproni bombardment seaplanes. This seaplane is a " land plane " with two parallel floats attached. The central part of the cellule is completely rigid. The outer bay only has diagonal wires. The nacelle is equipped with bomb racks for carrying the various types of bombs.

A nacelle for carrying eight persons and mail has been designed for fitting to this machine. To date one sample of the land plane only has been completed for tests:

CHARACTERISTICS—CAPRONI SEAPLANE, TYPE 1922.

Type	Caproni biplane seaplane 1922.
Span (upper)	20.72 meters.
Span (lower)	19.00 meters.
Length	11.20 meters.
Height	4.71 meters.
Chord (upper wing)	2.90 meters.
Chord (lower wing)	2.65 meters.
Gap	2.30 meters.
Total supporting surface area	100 square meters.
Area biplane tailplanes:	
Fixed part	7.15 square meters.
Movable part	3.60 square meters.
Propellers:	
Tractive	2 each of two blades.
Pusher	1 of four blades.
Diameter	2.40 meters.
Number revolutions	1,600.
Weight empty	2,500 kilograms.
Useful load	1,500 kilograms.
Weight fully loaded	4,000 kilograms.
Load per square meter	40.00 kilograms.
Load per horsepower	7.56 kilograms.
Power plant	Three IFV 4–B engines, each of 190 horsepower; or four Spa engines.
Speed	160–170 kilometers per hour.
Endurance	4 hours.

ITALY.

FLYING STATISTICS.

11 December, 1922.

The following information has been received from the Ministry of Marine relative to flying hours, accidents, and deaths incident to flying at Italian flying stations for the years October, 1921, to October, 1922.

MINISTRY OF MARINE—AERONAUTICAL INSPECTORSHIP.

Damages of machines confirmed in the Aerial Corps of the Royal Marine from 1 October, 1921, to 1 October, 1922.

Stations.	Sum total hours of flight.	Aerial incidents.	Wounded.	Deaths.
	h. *m.*			
Taranto (school)	1,213 23	3	1	.....
Spezia	520 10	6	2	1
Naples	401 40	1	2	.....
Pola	141 09	9	.....	1
Brindisi	118 50	9	1	1
Sesto Calendo	126 30	9	1	.....
Ostia	14 40	.....	.....	.....
Leghorn	13 07	.....	.....	.....
Orbetello	2 45	.....	.....	.....
Venice	2 00	.....	.....	.....
Total	2,554 14	37	7	3

Incidents (Causes.)

Total No. false maneuvers—13:	
Capsized crash	3
Spinning crash	3
Wing broken on water	1
Machine broken in mooring	2
Bad pilcting	2
Collision in flight against electrical cables	2
Total No. motor damages—9:	
Radiator broken in flight	1
Various damages to the motor	8
Total damages	22
Total No. damages to the structure—15:	
Breakage of wing in flight	1
Breakage of the tail of the boat when on the surface of the water	1
Axle that connects the inner parts of the machine come out of position when in flight	1
Breakage in flight of the principal cable of the small wings and the small gas hands	1
The fixed base of the tail out of order	1
Breakage in flight of the fore part of the motor	1
Various damages to the boat	9
Total damages	37

SUMMARY.

	Per cent.
False maneuvers (13 per cent)	35
Motor damages	25
Damages to the structure	40

The following is their comparison of Italian and American percentages:

	United States.	Italy.
	Per cent.	*Per cent.*
For false maneuvers	70	35
For damages to the motor	16	25
For damages to the structure	6½	40
For unknown causes	7½	.....
Total	100	100

ITALY.

NAVAL PERSONNEL NOTES.

12 December ,1922.

	Allowed.	Actual.	
		Number.	Extra number.
Line officers:			
Admirals [1]	1	1	.....
Vice admirals	7	8	.....
Rear admirals	11	12	.....
Commodores	11	11	.....
Captains	52	53	1
Commanders	110	115	5
Lieutenant commanders	150	145	5
Lieutenants	430	382	16
Lieutenants (junior grade)	270	171	5
Midshipmen		60	.....
	1,042	958	.....
Engineer Corps (all have army titles):			
Lieutenant general	1	1	.....
Major general	1	1	.....
Brigadier generals	2	2	.....
Colonels	8	8	.....
Lieutenant Colonels	20	19	.....
Majors	48	46	1
Captains	160	155	5
Lieutenants and lieutenants (junior grade)	100	133	33
Construction Corps (all have army titles):			
Lieutenant general	1	1	.....
Major generals	2	3	1
Brigadier generals	2	1	.....
Colonels	7	8	1
Lieutenant Colonels	12	12	.....
Majors	22	22	.....
Captains	56	38	1
Lieutenants	16	10	.....
	118	95	.....
Medical Corps (all have army titles):			
Major generals	1	2	1
Brigadier generals	2	1	.....
Colonels	8	9	1
Lieutenant colonels	24	25	1
Majors	48	43	.....
Captains	105	78	4
Lieutenants	30	13	.....
	218	171	.....
Supply Corps (all have army titles):			
Major general	1	1	.....
Brigadier general	1	1	.....
Colonels	8	8	.....
Lieutenant colonels	22	22	.....
Majors	44	39	1
Captains	105	121	16
Lieutenants	40	11	3
Lieutenants (junior grade)		0	.....
	221	203	.....

[1] Two full admirals in Royal family.

The Italian Navy has no warrant officers. Their "sottoufficiali" comprises what would be warrant officers in the United States service. "Sottoufficiale" is above a chief petty officer, but less than a warrant. Of this class there are: Capi anziani, 2,394 (chief petty officers); capi first and second class, 3,400 (P. S., first class); other petty officers and enlisted men, 28,492.

Line officers alternate on sea and shore duty; terms not fixed.

To be promoted, line officers must have served at sea for various grades as follows:

Rear admiral	6 months.	Lieutenant commander	1 year.
Commodore	6 months.	Lieutenant	4 years.
Captain	2 years.	Lieutenant (junior grade)	2 years.
Commander	18 months.	Midshipman	1 year.

A commodore has no command of groups or units, and duty is mostly on shore.

Midshipmen when graduated from naval schools are considered as officers and are entrusted with all duties of their grade; 5 years at Naval Academy and after 18 months of service afterwards, of which 12 months must be at sea, are promoted to lieutenant (junior grade) (sottotenente).

When the Navy Register (quadri organici degli ufficiali) was reduced at the close of the war, such officers as requested to be put in a special position were authorized to remain in what is called "special temporary discharge for reduction of register" (aspettativa speciale per rêductione di quadri) by which, though considered as on active service, they are exonerated therefrom and get three-fourths of their active-duty pay. They can not be promoted unless placed in auxiliary position.

Naval constructors go to sea for one year in grade of captain. Supply corps officers perform both sea and shore duty.

On all battleships, ordnance officer in charge is lieutenant commander, assisted by a lieutenant, and on cruisers is a lieutenant.

The letter "A" following the name of the lieutenant signifies ordnance officer or assistant ordnance officer, according to whether he is on a cruiser or on a battleship.

Letter "E" signifies the officer in charge of electrical department.

"T" signifies torpedo officer.

On all ships, the senior lieutenant, whose name is not followed by a designating letter, is navigator.

Other lieutenants without designating letters stand watch. The captain may order the ordnance officer to stand watch.

The executive officer and each lieutenant has a sublieutenant as an assistant.

ITALY.

TORPEDO MANUFACTURE.

4 December, 1922.

1. The standard Italian naval torpedo is the 18-inch, and before and during the war were manufactured by the Whiteheads of Fiume and Naples. The Whitehead factory at Fiume has closed down and will probably never be reopened for the manufacture of torpedoes. The Whitehead works at Naples have passed completely into Italian hands, and present Italian management is largely devoid of experience in the manufacture of torpedoes.

2. Torpedoes of over 18 inches have never been manufactured in Italy, and it is understood that not only do the Italian naval authorities wish to stand on their own feet as to the manufacture of torpedoes but they also desire to adopt a larger torpedo. They are evidently contemplating a 21-inch torpedo or even larger, 23.4 inches, as they have ordered some air flasks for 23.4 inches (60 cm.), which the Silurificio Italiano (old Armstrong-Whitworth & Co.), at Naples, have *accepted* a contract for, probably a small number for experimental purposes.

The Armstrong-Whitworth & Co. is now entirely Italian owned, Armstrong having sold out their interests and rights in Italy after the armistice. Before and during the war they manufactured torpedoes of all kinds up to and including 18 inches.

3. The Silurificio Italiano reopened as an Italian firm in May, 1922, for the manufacture of torpedoes, and it is understood the Italian Government wishes to give them as much support as possible in order to develop them into a much needed national private torpedo factory. From the present outlook it is not seen how this new firm can exist unless subsidized.

4. It is reported that the Italian Government in the future intends that all its torpedoes shall be manufactured in Italy at Spezia and Naples.

5. Armstrong at Pozzuoli was asked to bid on the 24.3-inch (60 cm.) air flasks and refused on the grounds of inadequate machinery and difficulty of obtaining satisfactory material, and too much of an experiment to be sound financially at the present time.

6. At the present time the Silurificio Italiano employs about 600 men, of which 350 are employed in commercial manufacture. The Government work consists of repairs and replacements to existing stocks of 18-inch torpedoes and tubes. They expect to receive orders

soon for 21-inch torpedoes and tubes, but whether or not the naval authorities have a *design* for a 21-inch torpedo or tube is not known, nor about the 60 cm. (23.4-inch) torpedo and tube.

ITALY.

TORPEDO TUBES IN DESTROYERS.

4 December, 1922.

1. The torpedo tube question for destroyers, flotilla leaders, etc., is in the air at the present time. The Italian naval authorities have rejected the Armstrong design of triple 18 and 21 inch tube (similar to English tubes), as they objected to the high superimposed center tube.

A special design was submitted by Armstrong which overcame objections, center tube being placed underneath and height of upper tubes being lowered. This design was also rejected.

2. Armstrong was asked to submit a design for 18 and 21 inch triple tube arranged horizontally; they declined on grounds that such a mount would give excessive "throw off" (particularly in case of 21-inch) when firing wing tubes.

3. They have not been again approached as to a design, and it is rumored that Italian naval authorities will make their own design.

4. The Italian naval authorities seem to be hesitating between twin and triple tubes for all vessels building.

ARGENTINA.

AIR SERVICE DATA.

8 December, 1922.

The following data has been received on the Argentine air service:

(*a*) Airplanes in Argentina	173
(*b*) Army	53
(*c*) Nationality of planes:	
French	88
United States	30
English	24
German	11
Italian	4
Various nationalities	16

The French mission (Fonck and Fronval) to Argentina, are endeavoring to persuade them to greatly increase air strength.

ARGENTINA.

AIR SERVICE DATA—ADDITIONAL.

December, 1922.

1. The following more recent information on planes in the Argentine is herewith furnished:

Numbers and types of machines constructed in Argentina:

Castriobert	1
Mira	1
Golondrina	1
Lavelli	1
Halcor A 1	1
A 2	1
	6

Numbers and types of airplanes at the military school of El Palomar:

Sva (Italian)	16
Bristol	16
Avro	20
Spad	4
Curtiss	10
Caudron	5
Voisin	1
Nieuport	2
	69

Numbers and types of machines at civil schools:

Caudron (Italian construction)	40
Caudron (French construction)	6
Saml (Italian)	20
Curtiss	22
R2 (Italian)	2
Sva (Italian)	6
Avro	12
Balilla (Italian)	2
Caproni 600 horsepower (Italian)	3
Farman	4
De Haviland	7
Breguet	4
Airco	11
Foker	1
Spad	8
Morano-Parasol	10
	158

BRAZIL.

AVIATION COMMISSION IN ITALY.

2 December, 1922.

A Brazilian military aviation commission is in Italy and has purchased 18 new Sva airplanes (2 seater biplane) from the Ansaldo Co. The officers are now on duty at the Ansaldo factory supervising the testing and packing of the machines as completed. The commission apparently intends to purchase from the same company a number of the new tactical reconnaissance machines known as the A–300 type.

CHINA.

CHANGING VIEWS TOWARD SOVIET.

November, 1922.

Talk in the tea houses among official and semiofficial folk in Peking, though not always characterized by accuracy or by pure reason, is a fairly good political weather vane. According to this standard, then, the current of Chinese sympathy has within the past month turned decidedly and strongly against the Soviet Government of Russia and against the Soviet's representatives in this country. A few months ago a decidedly friendly interest in Russian policy and in prospective Russian relations with China was developing not only among the teachers and students of the schools but among all classes of Chinese officials also. The attitude is now one of suspicion of the Soviet's policy in the Far East and of keen resentment of A. A. Joffe's diplomatic tactics.

Chinese opinion was veering around in favor of the Soviet a few months ago because the average Chinese believed that the Soviet Republic, so called, was a liberal and popular government, and because it was supposed that a liberal and popular government could have no imperialistic policy. The idea that an alliance with Russia would protect China against Japanese aggression and would give her new dignity in the sight of the Occident so that she could take a more independent attitude toward her creditors was also very attractive to many minds. Opinion in these same minds has been largely reversed because it has gradually dawned upon them that whether the Soviet Government is a liberal and popular government or not, it does have an ambitious imperialistic policy; and also be-

cause it is being realized that to defy public opinion in the Occident and enter into an alliance with Soviet imperialism would be out of the frying pan and into the fire.

The notes and public statements of the Soviet representatives in the Far East have begun to show clearly enough that the Soviet wants to seize and operate the Chinese Eastern Railway as a Russian railway and not as a Chinese railway, and also that the Soviet has no intention of restoring Mongolia to China or of giving Mongolia even that degree of autonomy guaranteed under the old three-party agreement.

These points are obvious enough to any one who reads between the lines of Joffe's published statements, and if one reads Russian statements of policy published in Russia and Siberia one does not have to read between the lines. Of these things the Chinese are becoming aware, but they have not influenced them so much perhaps as Joffe's insulting attitude toward the Chinese Government which he has adopted since the Changchun conference and the Red occupation of Vladivostok. As long as he abused the occidental Governments before his Chinese audiences, the Chinese were astonished and delighted by his boldness. It was a new experience to hear a foreign diplomat in Peking call the great Powers of the West names. But since he has turned the same weapons of abuse on China, the Chinese have been astonished afresh, but by no means delighted this time. The best of it is that the Chinese are by no means intimidated. Guided by sound political intuition they have realized that Joffe is bluffing.

Opinion in the university, where theoretical communism was decidedly popular a few months ago, has turned radically against Joffe and the régime he represents. With the exception of Tsai Yuan-pei himself, almost every recognized leader in the university has recently hastened to announce that he is not a Bolshevik and that he and Joffe have nothing in common.

The Soviet leaders labor under the impression that Japan and America will some day go to war because of Japanese aggression in Manchuria, but if Russia threatens Manchuria with invasion and the Chinese Government with violence, it affords Japan an excuse to push into northern Manchuria and to strengthen her already strong position in the South, which the American Government would scarcely challenge and which most occidental Governments would probably support as a good excuse. An act of violence against the Chinese Government or even a consistently menacing attitude will range China herself, Japan, America, and all the rest of the world against Russia as allies. This is a situation which the Bolsheviks from their own point of view can not afford to create in the Orient. The last

thing that Moscow wants is a hostile China with all the world supporting her.

It has been the Soviet's policy in Peking to use the Red occupation of Mongolia as a lever for prying other concessions out of China. This was useful so long as the Chinese labored under the delusion that the Bolsheviks really proposed to withdraw from Mongolia some day when certain conditions were complied with.

The Soviet propagandists are sometimes overzealous, however, and fail to keep their secret plans to themselves. The Russian press has, within the last few months, intimated only too clearly that the Soviet does not propose to abandon Mongolia but to annex it. The continued occupation therefore ceases to be a diplomatic instrument in Joffe's hands and becomes a powerful incentive to Chinese hostility.

When the Red troops entered Mongolia they had an excellent excuse for doing so, an excuse which appealed to both the Mongols and the Chinese. When the remnants of Little Hsu's army were annihilated by Baron Ungern in February, 1921, all Mongols and all classes of Russians felt a considerable sense of elation because the Chinese soldiery had certainly behaved abominably in Urga. Ungern was, however, as violent and ruthless as Little Hsu's men had been and gave the Chinese good cause to resent his occupation of Urga. When he used Urga as a base and commenced his attacks upon the borders of the Far Eastern Republic, he afforded the Reds a good excuse to invade Mongolia and the Chinese were elated in their turn when they heard that Ungern had been overthrown and that Red troops had reached Urga. After the Reds had set seriously to work to build up a government in Mongolia according to their own tastes and entirely under their own auspices; and when they had made Bodo, a Buriat by origin, the head of this government, the Chinese began to object and all the Mongols of the old régime expressed their resentment and in many cases made representations to Peking.

The Russian delegates from Moscow do not now want the Chinese to know, however, that the Soviet Government does not propose to relinquish Mongolia at all, nor that they will violate any promises which they make to China in exchange for other concessions—concessions relative to the use and management of the Chinese Eastern Railway for instance. These are the things which the ardent Red propagandist can not keep to himself.

A certain Maysky has recently published a book in Irkutsk under the auspices of the Bolshevik régime which is entitled "Modern Mongolia." This book contains a detailed description of Mongolia founded on official figures collected by the author during a journey into the country in 1919–20 and then deals with the political future of Mongolia. Since it is published with the official approval of the

Reds, the political views expressed must coincide with those held in Moscow or the book would never have seen the light. According to this book, Mongolia, before considering the matter of her own autonomy, must follow one of two courses, union with China or union with Russia. The author then goes on to prove that the only course which can be of advantage to Mongolia is that of union with Soviet Russia because of existing conditions in China. He points out that China is passing through an epoch of change and is adopting instead of her ancient institutions the modern institutions of Europe. He then expresses the opinion that whatever reforms China is trying to introduce can not be effected within less than 50 years, and that no one can look so far ahead and foresee what will be the result of political evolution in China. No one can say whether it will be a capitalistic State or whether its Government will be shaped according to modern standards; that is to say, according to Soviet standards. China's reactionary tendencies do not encourage one to be optimistic. Therefore, says this author, the reunion of Mongolia with China can only lead to stagnation and economic ruin. Before China has ever developed into a socialistic state the Chinese merchants will have ruined the Mongol population.

" On the other hand," says this Bolshevist book, " union with Russia will help Mongolia to adopt forms of economic relations of a more just and favorable character, and will guarantee to the Mongols not only the preservation of the old conditions of their existence but also a renewed improvement of their general well-being. From the Russian point of view, union with Mongolia is of great political and economic importance. Through such a union Russia will obtain free access to an immense reservoir of raw materials and will create at the same time a buffer State between herself and China—a sufficient guarantee in the event of the latter developing into a militaristic State." By way of conclusion, the author then outlines the program of economic and political steps to take for the consolidation of the union between Russia and Mongolia. Do the Chinese need any better indication than this of the Soviet's policy in Mongolia or any further proof that any promises which Joffe or his colleagues make about Mongolia will be made to be broken?

CHINA.

NEW JAPANESE RAILROAD INTO KIRIN.

November, 1922.

The local Chinese press is this year showing an unusual interest in the Japanese proposal for a railway from the Tumen River to Tienpaoshan in Kirin—unusual because when the negotiations for this

concession were nearing completion in Peking more than a year ago, the local papers showed no interest whatever and made no adverse comment. Now that the matter has come up again, has been indorsed by Chang Tso-lin and has been protested by the Ministry of Communications, it has suddenly assumed the proportions of a new grievance against Japan.

The proposal was originally made when a Japanese company took over the development of a silver mine at Tienpaoshan which had never been a paying venture in Chinese hands. The Japanese operators suggested more than a year ago that a light railway should be built to take the silver ore out of Manchuria via Korea. A prominent Manchu official named Wen Lu, who was a resident of Kirin City and who had an interest in the mine and in the prospective railway, came to Peking to conduct the negotiations with the Ministry of Communications. Negotiations were actually completed and the documents were ready to sign when Wen Lu died. So far as the writer has been able to learn, this put an abrupt end to the bargaining and the agreement was never sealed by the Chinese Government.

This year Chang Tso-lin was approached directly by the concessionnaires and his indorsement of the project obtained. It is reported that the ruler of Manchuria summoned two Kirin officials to Mukden and instructed them to draft the railway agreement with the Japanese Development Co. and to sign it on behalf of their province. According to the Manchurian papers these officials were T'ao Pin, the Taoyin of Yenchi district, and a certain Mr. Tsai, presumably the commissioner of foreign affairs for the Province. It is said here that T'ao Pin objected strongly to granting the concession and tried to avoid participation in the negotiations but was forced by Chang Tso-lin to go through with it.

The proposed railway will be 240 li in length, will follow the line of the big highway from Huining on the Korean border to Ninguta, east of the Chang Pai-Shan, and will pass through the important commercial center of Lungchingtsun. A wooden bridge was built last year across the Tumen River at Huining by the Japanese to facilitate the movement of their troops into eastern Manchuria. Huining is already the terminus of a Korean railway from Narami (near Kiengseng) on the coast. Narani and Huining are already important and strongly fortified military posts, and as the new line to Tientpaoshan will be to all intents and purposes an extension of the existing military railway, the Chinese here regard it as a proposed medium for Japanese military penetration into a territory still inaccessible to Chinese troops. This suspicion that the real purpose of the line is strategic is strengthened by the Chinese

belief that the Tienpaoshan silver mines are worthless and can not, under any management, be developed sufficiently to warrant a railway 80 miles long. The population of the country through which the line will pass is 85 per cent Korean, and the authorities here see in the railway project a Japanese scheme for pushing the Korean boundary further north so as to take these erring Korean colonists, together with the territory they occupy, back into the bosom of the Japanese family.

The Government protest against the construction of this railway, which will commence in the spring, is that no formal concession was ever granted by the Central Government while the Government can not under any circumstances recognize a deal made with Chang Tso-lin. The Japanese reply is that a full understanding was reached with Chang Chi-tan when he was Minister of Communications. This presumably is true as far as it goes, for just before his death here a year ago the Manchu Wen Lu produced cards bearing the inscription "president of the Tien-Hui Light Railway," but the Japanese omit to mention the vital point that the agreement was not signed and that there is therefore no documentary proof of the understanding with Chang Chi-tan. If the indorsement of the present administration is not obtained, therefore, and if the Japanese authorities insist upon going ahead with the railway with Chang Tso-lin's indorsement, it will be tantamount to recognition by Japan of the complete independence of Manchuria—a diplomatic attitude which the other Powers will scarcely be willing to adopt.

CHINA.

NOTES ON THE GENERAL SITUATION.

November, 1922.

PARLIAMENT.

In the two months that Parliament has been having occasional meetings since its members were allowed to return to Peking with the avowed purpose of rushing work on a constitution for China, its members have been squabbling over the election of a president for the Senate and a speaker for the House of Representatives, so far without result. And as these two offices are supposed to yield the greatest graft, open charges have been made in these sessions of votes being bought right and left for from three hundred to several thousand dollars each. A week ago President Li Yyan-hung attended a meeting of Parliament and was openly accused by several members from the floor, in a loud voice, with being an interloper in

the presidential chair, and the premier, Mr. Wang Chung-hui, was assaulted and knocked down, and nothing has been done about it.

At yesterday's session of Parliament, while they were trying to take a ballot, charges of bribery were made from several sides, and eventually, at the end of only 30 minutes, one senator grabbed the ballot box and hurled it at another, and tore up and scattered on the heads of the other members the prepared ballots, so that the meeting broke up in disorder.

THE FOREIGN OFFICE AND MINISTRY OF THE INTERIOR.

The Foreign Office and the Ministry of the Interior are functioning in a half-dead fashion, routine work being carried on by such of the staff as have not yet struck because of long delayed wages; but it is gradually dawning on everyone that the Central Government of China is only a name.

CHINESE POSTAL AND TELEGRAPH RATES TO BE INCREASED.

In desperation for funds to keep up the semblance of government, the Ministry of Communications, that is almost swamped by debts accumulated in spite of its large income, has just issued a proclamation increasing postal rates and telegram rates enormously, which will bring much odium on that ministry from Chinese and foreigners alike.

A CHINESE ADMIRAL'S OPINION.

A lifelong resident in China told me last week that an admiral in the Chinese Navy had expressed to him wonder that the foreign powers were so dense as to continue to recognize this Central Government any longer. He said, although he was a Chinaman, he felt the *only* course that could bring peace and prosperity to China would be for the Central Government to acknowledge its impotency and appeal for an international regency. Not a few of the more intelligent Chinese have expressed privately to intimate friends among foreigners the same opinion, but none, as far as I know, have dared to openly advocate this plain truth.

RUSSIAN BOLSHEVIK ACTIVITIES IN CHINA.

In all the ports and in the interior Russian Bolshevik activities are manifest through paid Chinese agents, and it is undeniable, as evidenced by numerous strikes engineered by these agents, that the Chinese are seriously infected already with this deadly poison; and its fruits will become increasingly manifest. The Japanese-owned

papers have warned the Chinese again and again that the Washington Disarmament Conference gave them an opportunity to put their house in order, but instead of utilizing it they are increasing their mad struggle for graft, apparently with the idea "after me the deluge."

One often hears the question asked, "Are there no patriots in this land?" The usual answer is, "I don't know any."

CHINA.

SOVIET RULE IN MONGOLIA.

November, 1922.

The political policy of the Soviet agents in Mongolia is to exclude all Mongols of influence or ability from the Government and to maintain there a Government of their own Buriat puppets until they have educated the Mongols up to a due understanding and appreciation of the blessings of Bolshevism. Russians with Russian Buriat assistants are the real administrators. The princes and lamas who constituted the former governments of Mongolia are rigidly excluded from participation not only in Urga but throughout the country. The Soviet régime is maintained by garrisons of Red troops, inconsiderable in numbers but sufficient now to control any risings gainst their Government. The former Buriat figurehead Bodo was indiscreet enough to make some opposition to Soviet authority and was shot. In his stead the Reds have set up what might be described as an unfrocked lama, known among his own countrymen as Dja Lama.

This Dja Lama was a very inconspicuous figure in one of the monasteries in Urga before 1911. When the Mongols rebelled against China he emerged from obscurity as a nationalist leader, favoring complete Mongolian independence of both Russia and China. As a leader of revolutionary Mongol forces he occupied Kobdo, from which place the Chinese troops from Sinkiang failed to dislodge him. At China's request the Imperial Russian Government sent an expeditionary force into western Mongolia, scattered the Mongol troops around Kobdo, and captured Dja Lama, whom they carried away and exiled to some point in the extreme north of Siberia. About two years ago the Bolsheviks released him and bought him into Mongolia subsequently as their agent.

A number of other native Mongols are used, but in keeping with the Red policy everywhere, they are drawn from the riffraff, from what is virtually a pariah class. This the better-class Mongols naturally resent. The population of Mongolia, which probably does

not exceed 500,000, is, according to reliable figures, divided as follows: Lamas, 44.6 per cent, nobles 5.6 per cent, serfs 16.6 per cent, freemen 26.2 per cent, and the so-called *déclassé* Mongols 7 per cent. According to foreign traders and according to Mongols who have come to Peking, the Soviet makes a point of cultivating and using this déclassé element only with the result that all other classes are solidly and bitterly opposed to the whole regime. A policy has been instituted deliberately to augment this outcast element, officially known as the nomad proletariat, by depriving propertied Mongols of their herds through taxation. A herd of 50 animals is taxed, for instance, $300 a year, which means that with the low prices paid for animals in Outer Mongolia, the herd would be taxed out of existence in two years.

The economic policy of the Soviet is to force all food exports to go to Russia and to prevent the export of money from Mongolia by putting unreasonably high taxes on imports from China and Manchuria. Accounts of conditions brought back by foreigners who try to do business in Mongolia vary greatly, for the simple reason that those who go there to buy products—if they happen to be other than foodstuffs—or to develop the Mongol output along any line are tolerated if they are not actually welcomed, because they either bring in money or increase production. Those who go to Mongolia to sell, that is to take money out of the country, are treated in summary fashion and are quickly discouraged. The taxes charged on these imports are absurdly high and then when the tax is paid the merchant is forced to sell his produce at the Soviet's price. For instance one man who took in brandy paid $2.50 per bottle import duty and was then told that he must not charge over $2 a bottle for it. Motor cars of travelers are taxed $50 every time they enter or depart from Urga. The Mongols are in some districts allowed to sell their animals to the Government only and that at a very low price. The export of cattle and horses, except to Russia, is strictly prohibited. Nomads who try to escape from the Red rule by moving into Inner Mongolia with their flocks and herds are pursued, brought back, and heavily fined. Recently when Puntsuk Wang, who is now in Peking, escaped from Outer Mongolia into Inner Mongolia with his large herds, the Red troops discovered that he was gone and pursued him far into Chinese territory. The whole story is that the Soviet leaders, having impoverished, starved, and exhausted their own people through their absurd economic experiments, are now busy ruining the Mongols in the same way and with the same enthusiasm. There can be no question of the unpopularity of this regime among the Mongols. Peking is full of dissatisfied Mongols of all degrees clamoring for release from the Red rule.

If China were to enter into negotiations with Mongol princes and leaders in the right spirit, it would be a simple matter to prove to the world that the Soviet has virtually annexed Mongolia, violating China's sovereign rights over this vast territory, and that 90 per cent of the Mongol population resents the imposition of Bolshevik rulers and institutions upon Mongolia. However anxious the Mongols are to get rid of the Reds, they want no more military occupation of the Anfu character. Autonomy under Chinese sovereignty without Chinese military garrisons is what they want and is what the Chinese Government should offer them. Nothing would be more unwise on China's part than to organize a military expedition into Mongolia without first having made very definite pledges of autonomy to the Mongols. Such an understanding between China and the Mongol leaders, while it might not result in the immediate recovery of Mongolia from the Reds, would immediately reveal to the world that the Mongols themselves were the enslaved victims of the Red Russian dictatorship and that the occupation of Mongolia by the Reds was nothing less than the theft of a huge slice of Chinese territory, an act which the world can not afford to tolerate.

CHINA.

WU PEI-FU.

November, 1922.

NOTE.—These observations were made by an officer who was one of an important party of visitors to the locality mentioned.

General Wu's headquarters are in the camps and barracks of Loyang. The name of the town appearing on most maps of China is *Honanfu* but attempt is being made to return to the old name of Loyang which the city held for centuries. It was the capital of China for long periods at various times, the last one being 1,500 years ago.

The camp and General Wu's headquarters are lighted by electricity. He has several motor cars for his own use. Roads have been built so that these cars can run about the camps and to some extent through the surrounding country.

In characteristic Chinese fashion, however, the number of passengers in an ordinary seven passenger car was 13, every seat being filled and 6 men on the running board as a guard. As the roads are rough the wear and tear on the cars is immense.

Aside from a comparatively short time taken on an inspection of camps and surroundings, most of our time was given to conferences with General Wu and his officers. This resulted in getting rather better acquainted in the two days of the visit than would have otherwise been the case.

Loyang is reached from Chengchow, which is one of the principal junction points on the Peking-Hankow Railway line. From Chengchow to Loyang is 120 kilometers. The railway is standard gauge and the roadbed is in most excellent condition. The railway equipment is fair but sufficient. The line is through generally flat country immediately south of the Yellow River but is intersected by low ranges of hills of loess formation and through these hills there are ten short tunnels.

Loyang is an ordinary town of about 40,000 inhabitants.

General Wu's camp is situated 3 miles south of the town and is connected by a railway spur. This is the old camp and barracks built by Yuan Shih-kai as headquarters for a division in the old days. General Wu has taken over the camp and it is now arranged and modernized and capable of holding from 20,000 to 25,000 troops in barracks. There is sufficient room about the camp for temporary accommodation for practically any number of troops. The barracks, kitchens, and messing arrangements need no comment. There seems to be a more considerable arrangement for administration than would be required for a small unit of this kind. About the camp are large drill grounds, athletic fields, etc. The main buildings of the camp are substantial brick, and are lighted by electricity.

All of the artillery observed was either field guns of about 75 millimeters or small machine guns. It was impossible, however, to get the definite numbers due to the fact that most of the troops were absent and said to be on maneuvers. Most of the troops observed were recruits or youths being trained for officers. Some 1,500 were on the field going through various exercises, largely athletic, to which very considerable attention is paid, and the men seem to be in excellent condition. About 150 young men were seen under instruction at drill as officers' personnel.

The size of a division of the Chinese Army is supposed to be 10,000, but it is understood that while the number of divisions of the army is not being increased the size of a division is quietly increased to 20,000 men. There are at present between 16,000 to 18,000 in the Loyang encampment and some 50,000 in the Province of Honan.

The divisions consist ordinarily of infantry, cavalry, and artillery. The number of cavalry and the number of artillery has no fixed standard, but seems to be what can be gotten together.

The equipment of the infantry is the ordinary equipment of western troops. The rifles are of fairly recent type and pattern and are said to be largely of Chinese manufacture from General Wu's arsenal at Kunghsien.

General Wu Pei-fu was born in Shantung in 1873. He graduated with honor from the Kai Ping Military Academy, near Tientsin, 1898. He obtained the degree of B. A. at the age of 21. He had fur-

ther military training with Marshal Tuan Chi-jui. Since the establishment of the Republic he has been engaged in numerous campaigns throughout China. He has gradually risen to his present prominence.

In appearance General Wu is tall and slender and somewhat stooped. He looks well in military uniform and is particular in regard to his personal appearance. He impresses one as a student and as being careful and thorough. He is energetic and begins the day at an early hour. The best description of his character in one word is scholarly. He does not speak English. He impressed me as being capable and a gentleman.

During our visit we were with General Wu almost constantly and had excellent opportunity for observations and to become well acquainted. During the evenings particularly long discussions took place, not only on topics of the day but frequently on classical subjects, and Wu showed himself to be acquainted with ancient and modern European history and civilization. In one discussion the conversation ranged from ancient history to modern times, and Wu compared Aristotle with Confucius. In his conversation, he referred to Julius Caesar, Oliver Cromwell, Bonaparte, and our own Alexander Hamilton and Benjamin Franklin. In fact, he held his own remarkably well and in a scholarly style. As an illustration of the thoroughness of his knowledge, comment was made on the fact that the Chinese soldiers at reviews were using the German goose step. Wu asserted that the goose step was originated by the Chinese in the Tang Dynasty and that it had been used occasionally since, and that the Germans had taken it from an old Chinese book on strategies and tactics, and this they had obtained for use in the army and was still one of their textbooks. I am unable to say how accurate his statement may be, but would not be surprised it were true.

He is surrounded by what appears to be a competent and capable staff. Those coming under my direct observations were Col. Li Chi-chen, chief of staff, Brig. Gens. Yang Ching-chen and Chang Hsi-chen of the Fifth and Sixth divisions, Mr. Pai Chien-wu, political adviser, and various competent interpreters.

These two officers are similar in appearance and character. Each is about 45 years of age, large, vigorous personality, who looks as though he was a capable soldier who would carry out his instructions to the letter.

Col. Li Chi-chen, chief of staff, appears an officer of considerable capability. He is tall and slender, not soldierly in appearance. He does not speak English.

Mr. Pai Chien-Wu is the political adviser of General Wu. He comes from a family that has been known for its scholars for a thousand years. He is a man of about 40 years of age with a capable and

thoughtful face. I have been unable to find out what his education has been, but he appears to be a Chinese classical scholar and is well acquainted with European and American history. From our conversations it was plainly evident that he had recently made a considerable study of our Constitution and knew in general the history of its formation and adoption—this is probably due to the present agitation in regard to a Chinese constitution. Mr. Pai impressed me as a man of excellent education and information and of a great deal of ability. I should say he is an adviser not only on political affairs but on all others that are not purely military. He has been associated with Wu for 10 years. It is my opinion that the criticism that Wu was without political experience and therefore handicapped in regard to the other leaders in China is largely nullified as long as he has Mr. Pai in his present capacity. It is further my opinion that the impression that Mr. Pai has made on several unusually competent observers is that of a man of exceptional capacity and ability. While his personality is pleasant he is likely to be abrupt in his speech, and on occasion does not hesitate to contradict statements. He speaks no English, but probably reads it. Speaks German.

GERMANY.

AIRCRAFT SPOTTING GLASS.

12 December, 1922.

The German Navy is working in conjunction with the firm of Carl Zeiss in the development of a stereoscopic spotting glass, which is designed particularly for use against aircraft in order that shrapnel bursts may be quickly and accurately located with relation to the target. The general features of the instrument are being drawn up by the admiralty, while the optical construction is being perfected by Carl Zeiss. It is understood that these glasses will be ready for experimental use with the German Navy some time in March, 1923. Further details will be submitted on this subject when the experimental glasses have been completed.

GERMANY.

COMMENT ON VARIOUS FOREIGN ARMIES.

5 December, 1922.

Source: An article in a military magazine by man who signs himself Erwin Herman (probably a pseudonym).

ITALY.

The Italian Officers' Corps is well educated in a military sense, is instilled by a good military spirit, and has generally during the war

shown itself equal to the demands which one could place on the Italian Army.

The training of the troops still does not fully correspond to the demands of war. The morals has recently somewhat improved. Ingenious political influences, particularly communist, are kept away from the troops. The number of soldiers who can not read and write is still considerable.

On the whole, the Italian Army can still not be considered as a first-class army of a great power.

GREAT BRITAIN.

The scientific education of the British Army is, in general, not particularly high, in accordance with the peculiarity of the English school system, in which special emphasis is laid on physical development.

Spirit and military education of the officers, who are largely war veterans, are good. Both the higher and subordinate officers showed in the war a certain amount of formalism and doctrinarianism, both in operative and tactical matters, which often led to failures when they were confronted with an unforeseen situation.

Discipline, spirit, and morale of the troops are good. A real hate of the Germans no longer exists. The training is careful and, in general, in accordance with the lessons of the war. The regular army may therefore be regarded as a first-class army. Their slight strength, particularly that of the expeditionary corps, prevents, however, the British Army being considered in peace a political factor. With respect to France, in this regard Great Britain is at a considerable disadvantage.

The territorial army is to be considered equal to the regular army as long as it continues to have a heavy proportionate number of war veterans in its ranks. As time goes on, however, the men trained in war will gradually leave it and in consequence its value will diminish as a result of its short period of peace-time training.

BRITISH INDIAN ARMY.

The Indian soldier has in the war generally showed himself as a usable man. Several mountain tribes are excellent. The European climate, however, influences him adversely and reduces his ability to resist disease. The utilization of large bodies of Indian troops in European theaters of war does not, therefore, come in question for this reason as well as for reasons of internal Indian politics.

THE RUMANIAN ARMY.

The peace distribution of the army is carried through in such a way that nine divisions and two cavalry divisions front Hungary;

five divisions, Bulgaria; six divisions and two cavalry divisions, Russia; and five divisions, the coast.

The armament is not unitary. In addition to Rumanian material, largely of French origin, there is much captured Hungarian equipment as well as German and Russian material left in Rumania by us in 1918. Tanks and aeroplanes are largely French.

The officers' corps consists largely of Rumanians from the prewar area. Transylvanians are only included to a very limited extent. Education is good. The corps of officers showed its good qualities in the war.

Spirit and morale of the troops is, on the whole, good; the army is dependable. Communist propaganda is not noticeable. Continuous calling to the standards of the reserves permits the men in the newly conquered territory to become acquainted with Rumanian regulations and the Rumanian language.

The French influence is also strong in the Rumanian Army, but not to the same degree as in Czechoslovakia and Poland.

The army on the whole fought well during the war. Its value is fully as high as prior to the war when it was one of the best in the Balkans. Morally its value has been raised by the final success of the Entente in the war. The 5,000,000 acquired Rumanians, who are not of Rumanian nationality, could some day be a weakness both for the State and the army.

UNITED STATES.

Before the war the theoretical training of the officers was good, the practical, as well as the capability to be troop commanders, slight. The war brought fresh material to the officers' corps, which could meet simple demands, but often failed in difficult situations for lack of schooling and war experience.

Spirit and morale in the Army is good. The regular divisions and a part of the National Guard were at the end of the war very good; the great mass of the Army, however, not grown to the demands placed on it. In the war neither the leadership nor the training of the troops brought the tactical success, but the overwhelming superiority in numbers and material.

Communist influences have not made themselves noticeable.

On the whole, the American Army can be considered a usable instrument of a great power.

GERMANY.

COMPARATIVE OPERATING COSTS OF GERMAN AND UNITED STATES MERCHANTMEN.

19 December, 1922.

In conversation with one of the leading officials of an American shipping firm at Hamburg, the interesting statement was made that

he had analyzed the cost of operation of two similar ships, one American and one German. Of the total cost of operation, the cost for the upkeep of the crew of the American ship amounted to 7½ per cent while the cost of the crew of the similar German ship amounted to 1½ per cent.

This 6 per cent is, of course, a clear gain to the German merchant marine. Coupling this with the fact that the Germans pay in marks and receive in gold, it is very easy to understand this tremendous expansion.

He further stated that the total monthly pay of the crew of a German merchantman was in the neighborhood of $250 gold for nearly 60 men.

GERMANY.

DESCRIPTION OF TORPEDO PLANE.

1 December, 1922.

The construction of this torpedo plane (monoplane) is based on years of experience in the construction of torpedo planes. Director Heinkel, the constructor of this machine, already began the construction of torpedo planes for the German Navy in 1915, and in the year 1916, as the first success, a Russian destroyer was sunk in the Bight of Riga by a torpedo from the first torpedo plane of Herr Heinkel (Hansa Brandenburg). The planes at that time, however, suffered from too weak motors. The first torpedo planes had two 160 horsepower Mercedes motors, and later on 220 horsepower Benz motors were used. These machines were also built as double-deckers and had far too much resistance.

In this torpedo plane great stress has been laid on the plane being as easy and agreeable to fly as possible, for just this very point is of the greatest importance to airplanes of this type.

In order to carry the airplane easily aboard ship, the *assembly* is very greatly simplified. The wings, of which about 7 meters are free, can be taken off and folded up on the sides of the machine, according to an entirely new patent, in a very short space of time. It is so arranged that the plane can be mounted while the ship is proceeding at full speed without the use of any kind of tools for mounting the carrying surfaces. Such assembly only requires four minutes.

The 600 or 700 horsepower Benz or Fiat motors (or another type) built in the front part of the fuselage, is used as the propellant. In comparison with nearly all the other torpedo planes with two motors, this central construction with only one motor has the very great advantage of simplicity. There are none of the many pipings, ropes, and rods found in the two-motor constructions. Also, the number of fittings is very greatly reduced.

Fuselage: The fuselage is made entirely of wood with planking of block wood and without any inner stretching. The protections for the pilot and the torpedoes adjoin each other. For defensive purposes, there is a revolving machine gun behind the rear beam in the fuselage and there is a free firing field in front, behind and upwards. The fuselage rises towards the back so that the stabilizing surface can be brought into the plane of the machine gun and the enemy will not be able to hide behind the stabilizing surface, so that the dead firing angle is therefore reduced to a minimum. The stabilizing surface is also made of block wood and is attached firmly to the fuselage. There are no rods or struts in the firing field so that the factor of safety is increased. If desired, the fuselage can be separated just back of the wings or in front of the stabilizing surface, for the purpose of more convenient transportation.

Floats: The floats are constructed in two tiers and have a total length of 8.6 meters with a width of 1.1 meter. The great length and breadth assure stability on the water. This form of float has proven admirable in a hundred machines not only for the start but also for the landing.

Float carriage body: This consists of a minimum of struts. The triangular form is used all over. The floats are fastened to the struts of the float frame by means of a patented construction and can be removed in a very few minutes by means of a simple lever action.

Wings: The carrying surfaces consist of three parts—the center portion connected organically with the fuselage, and the two free wings of about seven meters length. As has already been mentioned, the carrying surfaces can be mounted and demounted in 4 minutes while the ship is in motion.

Steering gear: The entire steering gear, such as elevator, rudder, and buckling gear are all balanced so that the machine is easy to steer. The rudder is so large that one rudder is quite sufficient.

PERFORMANCE.

The firm guarantees a speed of 200 kilometers per hour. The load at such speed is as follows:

	Kilograms.
Fuel for 4 hours	580
Two persons	170
Torpedo	975
Launching device	60
Machine gun with ammunition	40
Miscellaneous	95
Load	1,920
Weight empty	2,300
Total weight	4,220

TORPEDO-LAUNCHING DEVICE.

The torpedo-launching device has been very greatly improved as a result of the experiences gained in the war. It is possible to build the launching device for various-sized torpedoes. The device is not affected by any distortion of the fuselage, but always functions perfectly. Its weight amounts to about 60 kilograms and it is very simple and easy to operate. There are also safety devices in the event of danger.

GERMANY.

GENERAL CONDITIONS AT KRUPP WORKS.

9 December, 1922.

During a visit to the Krupp works on December 5 the following information was obtained in conversation with several of the directors. Some of the items noted here have not changed materially during the past year.

In considering these item it must be borne in mind that the directors of Krupp's would naturally present the German side of the case and the statements contained herein should therefore be considered in connection with reports on the subject received from other than German sources.

Labor.—The Government has so far not permitted the demobilization of the labor employed in these works during the war, but the men work under the 8-hour day ruling. A workman can not be discharged except for causes of a criminal nature, such as theft, etc., without reference to the Government and to the labor union committees. The labor is getting less and less efficient. The output per man per hour has fallen off. In most of the machine shops only one 8-hour day shift is employed. In others, two shifts are employed, but only in the furnaces and smelters are three shifts employed; i. e., in those parts of the works that must be kept operating for the entire 24 hours.

Wages.—Wages on December 5 were seven times as high as in July. At the present time, due to the fluctuation of the mark, the adjustment is made every two weeks, but it was stated that probably within the next month they would have to come to a weekly adjustment of wages.

Expert workmen receive about 325 to 350 marks per hour, average 2,700 marks per day. Ordinary laborers receive 300 marks per hour, or 2,400 marks per day. The directors of the works stated that their salaries were in general about three times the amount of

an expert laborer. In pre-war days the salaries of the directors were at least 20 times as great as the most expert labor employed. Reducing the above figures to a gold basis, an expert laborer receives about 33 cents per day and ordinary labor about 28 cents per day. A director who has charge of the big shops and the technical direction of large sections of the work receives about $1 per day. So long as this scale of wages exists, Krupp's ought to be able to compete advantageously in any markets, regardless of the disadvantages they now have in regard to minerals and coal.

Food.—The general appearance of the working men in these factories is not good. Most of them have a pasty skin, characteristic of persons not properly nourished. Comparatively few of the workmen look husky and fit. Four of the directors stated that they themselves eat meat only twice a week, but that they were able to supplement their meat ration by sausages to a certain extent.

Ore.—Eighty per cent of the iron ore used in Krupp's at the present time is imported; some from Lorraine and some from Sweden. The Lorraine source, of course, is the one on which this industry was built during the time that the Lorraine mines were German, so that the problem of transportation of the ore received from this source is not different from the pre-war situation, except that the ore must be purchased from France.

Coal.—The output of the coal mines belonging to Krupp's is 6,500,000 tons a year. Of this, Krupp's is allowed 2,000,000 tons for the operation of their industries. The requirement for full operation of Krupp's is 4,300,000 tons a year. They are supplementing the allowances by purchases of brown coal and some English coal which at present allows the various factories to operate at a little more than 50 per cent capacity.

Output.—The pre-war output of the Krupps industries was 90 per cent for civil uses and 10 per cent for war. During the war the output became 100 per cent for war. Since the armistice, return to a peace basis of manufacture has been necessary and would have been necessary in any case, even had the Germans been victorious. The actual losses due to conversion from war to peace under the pressure of the interallied commission of control has not, therefore, been very destructive in its nature, as such conversion was more or less discounted in the general scheme of operating the industry under both peace and war conditions.

Conversion from war to peace.—The directors of the works state that in the course of carrying out the demands of the interallied commission of control they have actually broken up and distributed 43½ per cent of all of the machinery in operation in the entire works at the close of the war. By distribution of this machinery is meant the

sale of much of it to firms in foreign countries or to factories in Germany that were permitted to purchase such machines.

There are still more than 30 machines that are continuing to operate on probation. Those machines are condemned by the interallied commission of control to be destroyed, but Krupp's is still arguing the matter because of the fact that they are actually employing the machines in manufacture of articles used entirely for commercial purposes. They consist principally of the big lathes suitable for gun construction. They are now being employed in turning out huge steel tubes used in the nitrogen industry. These tubes look very much like parts of an enormous gun and are designed to stand a pressure of some 250 atmospheres. One of the directors stated, however, that while the lathes looked to be of a military nature because of the fact that they can be employed in certain phases of gun construction, such was the case with numerous kinds of machinery used for the manufacture of purely commercial articles and as all of the machinery that was exclusively used in the manufacture of guns had been destroyed, one should consider that the demobilization of the munitions manufacture was complete and thorough. Machines of this nature, such as rifling machines, special devices for finishing the guns, machinery used exclusively in making breech blocks, etc., have all been broken up.

General conditions.—It was stated by the directors that the losses due to the conversion from war to peace are about over. At the present time practically all parts of the plant are beginning to operate without loss and generally with profit under the existing conditions.

GERMANY.

IMPORTANT POPULAR ANTISOCIALISTIC MOVEMENT IN BAVARIA.

28 November, 1922.

The most active political force in Bavaria at the present moment is the National Socialist Labor Party. Less a political party, in the ordinarily accepted meaning of the word than a popular movement, it must be considered as the Bavarian counterpart to the Italian Fascisti. For several years almost unnoticed, it has recently succeeded in acquiring a political influence in Bavaria quite disproportionate to its actual numerical strength. Several factors contributed to the success of this movement; a very general dissatisfaction of the masses with the practical results of Socialist government, the oratorical abilities of their leader, Adolf Hittler, and in recent months, the general awakening of the Nationalist feeling in Bavaria, echoing the success of the Italian Fascisti south of the frontier.

The party was founded in Munich in the early part of 1919. The Bavarian press began to take notice of it, however, first in 1921. Adolf Hittler, from the very first, has been the dominating force in the movement and the personality of this man has undoubtedly been one of the most important factors contributing to its success. Hittler is of Bohemian-Austrian birth, but enlisted as a private in the German Army at the outbreak of the World War. Wounded several times, he was given the iron cross of the first class for bravery as a runner for battalion headquarters, and eventually rose to the rank of noncommissioned officer. His ability to influence a popular assembly is described as uncanny. In private conversation he disclosed himself as a forceful and logical speaker, which, when tempered with a fanatical earnestness, made a very deep impression on a neutral listener.

Hittler makes a decided differentiation between the basic aims of his movement, and the demands raised by the party, in response to local German problems, for purposes of propaganda. His basic aim is the overthrow of Marxism, whether in Socialist or Communist garb, and the rewinning of labor to the Nationalist ideals of state and society. He considers that the present parliamentary form of government in Germany is incapable either of settling Germany's internal or foreign problems. The clash of party interests has proved stronger than love of nation, and the present cabinet crisis in Berlin has effectually demonstrated the impossibility of Germany's rescue from her present difficulties through Democracy. His movement aims at the establishment of a national dictatorship through nonparliamentary action. Once achieved, he demands that the reparations demands be reduced to a possible figure, but that done, the sum agreed on be paid to the last pfennig, as a matter of national honor. To accomplish this, the dictator must introduce universal reparations service, and enforce it with the whole force of the state. His power during the period of fulfillment can not be hampered by any legislature or popular assembly. An understanding with France is the necessary keystone to the execution of such a policy. He believes that the "war of revenge" preached in certain national circles to be an utter absurdity.

The question of monarchy or republic is a matter of third-rate importance. It is possible to-day that German labor be rewon to nationalism, but not to monarchism. The disgraceful abdications of the German kings and petty princes without a struggle in November, 1918, has rendered them impossible as candidates for the German throne. It is possible in the distant future that the popular will of the nation may decide for a monarchical form of government. To permit the existing differences of viewpoint on this question to interfere with the achievement of the national dictatorship, so vital

to the interests of Germany, would be an absurdity. His movement is, therefore, no matter what his opponents say, a purely national one, and has no connection with either monarchy or republic.

The propaganda driven by the party before the public shows one particular plank which Hittler, in his personal talk, mentioned as little as possible—anti-Semitism. Anti-Semitism is undoubtedly throughout all Germany, but particularly in Bavaria; a political factor that can not be neglected. Hittler stated when directly asked as to this point, that he favored the withdrawal of citizenship from all Jews and their exclusion from public offices. Other leaders of the movement gave the impression, however, that anti-Semitism was a propaganda weapon rather than a basic aim of the movement.

The methods of the movement have a certain resemblance to those of the Socialists—emphasis on catch phrases, demonstrations on every possible occasion, and military discipline. There has been organized within the party a special military body, popularly called in Bavaria "Stoss Truppen" (storm troops) which the leaders admit are armed with pistols and clubs, and which offer security that the National Socialists are not broken up by their opponents. They have on several occasions taken the offensive against Socialist meetings. A year ago National Socialist meetings in Munich and the neighborhood were regularly broken up by the left. Since the organization of the "Stoss Truppen," there is no longer in this district any open opposition. There are at the present time in Munich 12 centuries of Stoss Truppen, each ranging in strength from 125 to 175 men, and six centuries in other south Bavarian cities. The men make a disciplined impression. They are reputed to be fanatical followers of Hittler, and their loyalty to him was evident during a review which they held before him on November 19 in the eastern suburbs of Munich. It is very difficult to gain an impression of the total party strength. Opponents of Hittler estimated it as high as 200,000, other neutral observers as 35,000. It is not easy, however, to distinguish between actual party members and Hittler sympathizers, who, as yet, take no active part in the movement. These were found in the army, the Government, and among the press. It was stated that the larger part of the Munich police was entirely in sympathy with the National Socialists.

The actual party membership and the members of the Stoss Truppen have been recruited to date almost entirely from south Bavarian cities and have been drawn from two widely differing classes of the population, the students and the middle classes on the one hand and the radical Socialists and Communists on the other hand. Hittler's conversions in the latter class are admitted on all sides to be numerous, but it was pointed out that they were either employees of small factories or stores. In the larger factories, it

was stated by a Socialist, the strong labor-union discipline had resisted any serious inroads.

It is an unquestionable fact that a large part of the success achieved by Hittler is due to the policy of noninterference and laying aside actual sympathy extended toward him by the Bavarian Government. As has already been mentioned, sympathy toward Hittler was found in very high Government positions. The Bavarian minister of the interior has on several occasions in the Diet officially proclaimed Government toleration of the National Socialists and actual sympathy with many of their aims. This attitude is not surprising, considering the present composition of the Bavarian cabinet, in which "National" parties are alone represented.

Until a short time ago the activities of the party were confined very largely to the vicinity of Munich. This was explained by Hittler's chief of staff as due to the condition of the party finances. In recent months, he stated, large sums of money had been received anonymously. A well-informed Jewish newspaper man stated that Director Hugenberg, of Krupps, had recently donated 40,000,000 marks to the National Socialists. Nurnberg industrials were also financing the movement. The party is at the present time purchasing motor trucks to use in transporting their Stoss Truppen from city to city. Such purchases can not be carried out without considerable capital.

Hittler emphasizes that his movement is a federal one and that he seeks control of the Reich, not merely of Bavaria. His party has developed in southern Bavaria with Government favor. He even stated that there was an informal agreement with the minister of the interior as to the scope of action of the National Socialists. To date, however, the Federal and Prussian Governments have actively opposed the movement. (The National Socialists were recently suppressed in Prussia, under the terms of the law for the protection of the Republic.) Progress has nevertheless been made in the Ruhr, Hamburg, and even in Socialist Saxony. The movement in north Germany is still in a far less developed stage than in Munich.

The immediate program before the National Socialists is the invasion of the north Bavarian industrial centers, Regensburg, Nurnberg, Wurzberg, and Hof. A large meeting in Regensburg was scheduled for November 19. A special train had been hired to transport six centuries from Munich to Regensburg. At the last moment the Munich direction of the Federal Railways withdrew permission for the train, as is stated, following a protest of the Workers' Council. The meeting was therefore postponed until the 26th. It was stated by Hittler that the meeting would be held, whether a special train could be procured or not. All arrangements had been made to

transport a sufficient number of centuries by motor truck, if necessary. The invasion of Nurnberg, the stronghold of Bavarian Socialism, is planned for the following week.

The question whether Hittler's National Socialists can plan a rôle in Germany equivalent to that played by the Fascisti in Italy can still not be answered with any degree of certainty. In the limited area of Bavaria, south of the Danube, Hittler's success can not be gainsaid. Important gains have been registered by the National Socialists from the extreme Socialist parties. It is believed that not only in Munich, but in all Germany, there is a fertile field, even among the factory workers, for a national movement, provided the idea of monarchy, which has dominated all preceding national movements, be entirely left aside. It seems hardly probable, furthermore, that with the results already achieved there will be any lack of money for the propagation of the idea of a national dictatorship. These facts, coupled with the magnetism and oratorical ability of the National Socialist leader, speak for a rapid and consistent development of the German "Fascisti."

One must not, on the other hand, fall into the mistake of believing the past success an omen for the future supremacy of the party. South Bavaria is primarily an agricultural region and its only great city, Munich, though with a popuation of over 600,000, is differentiated from other German cities by an almost complete absence of large factories. The success of the movement in industrial Nurnberg requires a quite other set of conditions. The discipline of the German laborer to his union is a well-recognized fact. The breaking off of this relationship is fundamental for the success of any Nationalist labor movement. So far it can not be said that Hittler has either proved or disproved his ability to overcome this barrier in his path.

It is also felt very strongly that labor will only come to him in case his movement is kept entirely free from the suspicion that it is agitating the cause of either one or the other of the former reigning families. While Hittler himself probably realizes the necessity of a pure and simple national movement, elements have gathered around him which are of quite another hue. Hittler's ability to dominate in his own movement is an open question. So far, his movement has been relatively so unimportant that the question in its fullest extent has not yet arisen. It seems certain that with the great influx of party members now going on the task of maintaining the purity of the party's national aims will require not only a great orator, such as Hittler is, but a political genius, with deep knowledge of human nature. One can not say as yet that Hittler's possession of this quality is proven.

The question of the ability of the National Socialists to spread their doctrines into the industrialized North Germany can also not now be answered. It will undoubtedly depend to some extent on the attitude adopted toward them by the federal and Prussian governments. Until now both governments have been hostilely disposed toward Hittler. Although Cuno's new bourgeois federal cabinet may adopt a different policy, the Socialists still remain in the Prussian cabinet, and one of their number, Severing, holds the very important post, as far as internal political movements come in question, of Prussian Minister of the Interior. Coupled with the uncertainty as to the future Government attitude is the uncertainty of the two right parties, the German Nationalists and the Peoples Party. In South Germany these parties have adopted a friendly policy toward Hittler. In North Germany, on the other hand, one must still speak of them as interested but waiting. Until now they have felt themselves too weak to openly espouse the movement. The favor of the Peoples Party is, in view of this party's present participation in the federal cabinet, a matter of the utmost importance to the National Socialists.

The attitude of the French Government toward this movement, once it becomes a powerful factor in German politics, can also not as yet be answered. Much depends on the speed with which Hittler can confront the Entente with a completed fact. Granting even, however, its success to be assured, it is difficult to see how a national dictatorship can maintain its position in Germany without a rapprochment with France. The achievement of such an understanding, however, presupposes a vast number of factors which in reality lie quite outside the domain of German domestic politics.

GERMANY.

MOTOR SHIPS UNDER CONSTRUCTION.

19 December, 1922.

The firm of Blohm & Voss is engaged in the construction of two motor ships for the Hamburg-America Line. Originally four ships of this type were ordered, but within the past two months two of these were canceled. The characteristics are as follows:

19,000 tons displacement.
13½ knots speed.
Diesel engine motor drive, with reduction gear.
2 shafts.
Two 3,000-horsepower motors on each shaft, each unit driven through the gear with one pinion.

In case of damage to any of the units, the propeller shaft may be driven by the other unit. Estimated saving over straight Diesel engine drive without reduction gear: In weight, 40 per cent; in fuel consumption, 15 per cent; in cost, approximately 10 per cent. The Diesel engine units in this construction are the submarine type Diesel, modified for commercial use—that is, the maximum speed of the engine is reduced from 3.95 to about 2.80 revolutions per minute. Blohm & Voss are very confident of success in this installation, as the *Haviland* and sister ship worked out very successfully after a year and a half service.

The cost of building such motor ships now, when fitted with passenger service, is approximately 15 pounds per ton. The cost of construction of freighters at the present moment is approximately 13 pounds per ton. These figures vary considerably with the fluctuation of the mark, as the labor is paid in marks, while the shipbuilding is on a gold basis; the labor costs are continually fluctuating and exact estimates are subject to considerable variation.

GERMANY.

PARSEVAL COMMERCIAL AIRSHIP.

6 December, 1922.

MEASUREMENTS AND PEFORMANCE.

Gas space, entirely filled, 25,000 cubic meters.

Length over all, 133.0 meters.

Maximum width, 21.0 meters.

Height, 26.0 meters.

Motors: 4 Maybach motors of 260 horsepower each, total 1,040 horsepower.

Guaranteed speed, 115 kilometer-hours.

Guaranteed useful buoyancy consisting of fuel, ballast, crew, passengers, post, supplies, etc., with completely inflated ship and a= 1.16 kilograms,=14.5 tons.

Accommodations for 32 passengers.

SUPPORTING SURFACE.

The ship is constructed in accordance with the latest experiences and tests and embodies a number of improvements.

The form of the body is a still further development of the ideal stream line, and the guide surfaces and rudders have been greatly enlarged in order to insure safe steering and a pleasant flight for the

passengers. Further, in place of the so-called trajectory bands, there is a strengthening net of steel ropes, which appreciably increases the strength of the body, especially in the case of injuries to the ship, and at the same time it reduces very greatly the possibilities of deformations. This net consists of longitudinal and diagonal girders, each of the latter being a wire strand, one end of which is spliced on a turnbuckle and the other on a shackle. The turnbuckle is also fitted with a shackle and both these shackles grip the rings of the points of intersection of the net so that each girder on the ring can be turned in all directions and interchanged. The diagonal girders are all located 1.75 meters apart, while the longitudinal girders amidships are 2 meters from each other, which distance decreases toward the ends in conformity with the form. The diagonal stiffening of the net enables the ship to support effectively all strains, such as bending, sliding, and twisting, and, as all the girders are made of as nonelastic wire strands as possible, the deformations of the ship are also very slight; in fact, 100 times less than in the case of ships made of balloon material. The covering of the net is the framework of the ship, and this makes it as stiff as a rigid ship, but also as nonbreakable as a pressure ship, for, in the case of too great strains, the body yields. The ship, therefore, combines all the advantages of the rigid ship and the pressure ship without any of their disadvantages.

The frames are fastened along the longitudinal girders of the net and are sewed to the outer covering so that the latter, in the event of increased pressure in the middle chamber, bulges outward and takes a somewhat cylindrical form, whose evolutions are transmitted longitudinally along the ship. The upper surface of the ship therefore appears to be pressed or tied into the stream-line direction, but otherwise is absolutely smooth.

The inner chamber is under increased pressure so that the outer covering is always taut and smooth. The purpose of this is, on the one hand, to give the ship a satisfactory smooth upper surface, and on the other hand, to protect the gas bags from the action of the weather and the sun, as the air within the space is kept continually in motion from the bottom upward and outward and the space itself, contrary to the pressure ships, has a greater and everywhere equal thickness. With this arrangement, the ship can always remain out in the open and it is therefore possible to operate a service without hangars, which is greatly desired at the present time.

There are certain interior arrangements which enable the convenient interchange of gas bags which can be either of goldbeater skin or cloth.

The question of compartments has also been happily solved here. It is well known that the question of compartments is a highly im-

portant one and also one of the most difficult. The diagonal bulkhead is to so transmit the axial gas pressure (which arises for instance when the ship is in a diagonal position) to the cover (in this case, the net) that there is never any constriction or bulging, etc., which to a certain extent can not be seen from the outside. This object is attained in the ship through cylindrically curved bulkheads. This contemplated cylinder passes through the body of the balloon from top to bottom and, together with its mantle, joins the sides of the ship so that the edge of penetration forms an elliptic with the ship, and in the lateral view appears as a right angle, the hypotenuse of which inclines 45° toward the ship's axis. By means of a special construction, this wall is attached to the net in such a way that during a radical pressure from the inside toward the outside, only the horizontal fibers passing round in circles are spanned and only these transmit the bulkhead load on the net covering. However, the horizontal fibers mostly enter the net cover tangentially but leave, however, such small spacial components that, as a matter of fact, there is absolutely nothing to be seen from the outside, something that has been proven by the most detailed tests. A further advantage of the cylindrical bulkhead is that when it is not under stress (that is, when it is straight up and down) it takes the same form as when under stress. This prevents the dreaded so-called gas rolls during an inclined position of the ship, since there is no necessity for bracing through ropes, belts, and the like. The fact that this represents a clear, simple, and easily calculable load factor is only mentioned in passing. The cylindrical bulkhead walls are arranged in pairs, since they are only strained on one side. Thus when the strain comes in the other direction, the strain on the one bulkhead wall is released. The space between each pair of bulkheads is naturally filled with bags and gas.

PASSENGER ROOMS.

These are in the middle of the ship in the cabin suspended from the corridor frame. The pilot cabin, with wireless apparatus, etc., is in the front part of the car, while the other part is divided into anterooms, conference rooms, and lounging rooms. There are 32 passenger seats. Each seat can be converted into a berth. The toilets (subdivided for men and women) also contain washstands, etc.

CORRIDOR FRAME.

A corridor framework made up of single rigid parts passes along the under side of the supporting body, making the ship semirigid. It also serves for the storage of fuel, ballast, and other cargo.

MACHINERY PARTS.

The machinery parts consist of two side cars and one keel car to the rear. In each of the side cars there is one motor, with propeller coupling gear and forward and reverse action; in the rear car there are two motors on one propeller, with couplings and connection gear. There are also auxiliary engines and ventilators here. The ventilators are to press the air into the carrying surface, if, for instance, during a halt or on the stand the normal air supply through the flight wind on the bow of the ship is insufficient.

LANDING DEVICES AND MOORING.

The pressure in the ship is regulated by the L. F. G. pressure regulator, the sensitiveness and accuracy of which have been still more increased through a new device. The air valve and several gas valves are on the back of the ship. The gas valves, which are not mechanically operated as in rigid ships, are placed in gas shafts, but with the exhaust also upwards.

LANDING DEVICES AND MOORING.

The ship can land either on water or on land. In both cases the downward movement is restricted through the landing buffer on the pilot's cabin. When landing on the water, water can be taken into this buffer and the ship secured in this way. The ship is moored either to a mooring mast in the English manner or on the ground by fastening the landing buffer by a cable and drawing it tight against a small horse (brace). The ship is so stabilized aerodynamically that it automatically "plays in the wind" about this point. By means of all these newly-described characteristics the ship fulfills all the demands of a commercial airship.

GERMANY.

TORPEDO APPARATUS FOR AIRPLANES.

15 December, 1922.

The apparatus in question is installed in a special airplane constructed for this particular purpose, and makes it possible to fire a torpedo at a moving or stationary ship with absolute accuracy without the airplane dropping to the water. The torpedo is thrown during flight at an altitude of from 2 to 6 meters. Of course, the torpedo must be equipped with a gyro apparatus so that after striking the water the torpedo will continue to follow a straight course. The

motive power of the torpedo only operates with a portion of its power until after the torpedo strikes the water. The suspended pin found on every torpedo is used to support the torpedo in the plane and prevent its slipping out of its vertical position.

The construction of the apparatus is such that after the firing of the torpedo the lever automatically reverses so that the gyro apparatus of the torpedo is set in operation; only when this has been reached the full number of revolutions, which only takes a fraction of a second, is the torpedo released and thrown. The torpedo takes its aim, is fired by a blow on the firing lever, and leaves on its track all in the same moment. Even when the airplane changes its course slightly after the firing the torpedo resumes the given direction after entering the water, through the action of the steering gear of the torpedo.

In giving any orders for the apparatus all the necessary details must be given so that the individual parts of the device may be correctly estimated in point of size, etc. The information to be furnished is as follows:

(1) All exterior measurements of the torpedo which determine its form.
(2) Weight of the torpedo.
(3) Location of the center of gravity in the torpedo.
(4) Location and measurements of the lever which sets the torpedo in action.
(5) Extent of the power necessary to reverse the lever.
(6) Time necessary for the gyro apparatus to reach its full number of revolutions.
(7) Measurements for the subdivisions of the torpedo—war head, chamber, propeller, etc.

If torpedoes of various calibers are to be discharged, then the above-mentioned details must be given for each type of torpedo. The weight of a complete torpedo-firing device for an airplane amounts to about 50 kilograms; it is somewhat more when arranged to discharge torpedoes of various calibers. Whether or not the apparatus can discharge all the types of torpedoes desired, can only be determined by tests.

The complete torpedo firing device consists of the following parts:

(a) The complete apparatus with all its parts for carrying and discharging the torpedo.
(b) The discharging lever.
(c) The emergency lever.
(d) The indicator with electric signal lamp but without current generator.

(*a*) *The discharging apparatus.*—This consists of a thin-walled steel tube in which is located a steel spring for the reversing of the lever. This spring operates on a piston running in the tube which bears the bolts for the reversing of the lever, and is worked out in such a way that the piston is blocked when the spring is spanned.

By means of specially constructed parts such as shafts, levers, etc., this piston is in direct connection with the carrying parts and serves to steer same. These carrying parts (locks closing automatically) hold the torpedo on the steel bands which are laid on the lower half of the torpedo, and the ends of which are so armed that they are protected against the carrying parts (the locks), without any sticking or catching taking place during the act of loading, or during the flight.

For the suspension of the torpedo, a specially constructed wagon or carriage is used with lifting, turning, and sliding devices. By means of this, the torpedo is carried under the airplane and raised up into the discharging apparatus. When the torpedo is being lifted into the apparatus and has almost reached the end, then, by means of the special devices on the carriage or wagon, it is pushed or turned into the proper position and definitely raised. The apparatus prepared for the tension of the spring for loading, clutches the bands under the torpedo and holds these so that the locks close automatically, and the torpedo is then held tight in this position until released at the discharge or by means of the emergency lever.

The bands are only released on one side. The other side remains fast on the apparatus. At the discharge of the torpedo, the two bands hang from the airplane, but this has no effect on the course of the torpedo as they can not fall into its propeller. All the levers of the apparatus are so constructed and fastened that an easy discharge is possible, but they can not be released through any shocks arising to the airplane through the flight itself.

There are special control organs which permit the testing out of all parts before flight. This avoids any danger due to faulty operation. The essential properties of the airplane itself make it difficult to get at the discharging apparatus so that this one item is a very important point, and especially acceptable to the crew of the airplane.

All steel parts are galvanized.

A special spanning device is delivered for the purpose of spanning the apparatus. This can be removed after the loading of the torpedoes and is, therefore, not carried along during the flight.

It requires about two minutes to span and load the apparatus. Practiced personnel can do it in a shorter period. During the loading, the entire apparatus is blocked so that no accidents can occur. The special points warranting consideration are the fact that untrained workmen can operate the apparatus and that it is subject to control at any time.

(*b*) *The discharging lever.*—The discharging lever is so constructed that it is only necessary to strike a knob near the seat, in order to

discharge the torpedo. In order to prevent any accidental operation during the flight or in the hangar, the discharging lever is protected by a specially reversible lever with a cap and closed with a weight. This weight indicates to the flyer whether or not the apparatus has been tampered with.

(*c*) *The emergency lever.*—It must be taken into consideration that in war the airplane will be bombarded by the enemy and that the apparatus can be damaged to such an extent that it will be impossible to fire a torpedo. However, when an airplane eludes this bombardment it is of the very greatest importance to be able to fire the torpedo in order to lighten the weight and increase the stiffness. An emergency lever is provided for this purpose. By drawing this lever the torpedo is released from the airplane without setting the entire apparatus in operation. This emergency lever is also used to unload the airplane without having to undertake a flight. By firing off the torpedoes great damage might be done.

(*d*) In flying, the discharge of a torpedo is never known soon enough, as it should be in an attack on an enemy. This indicator, therefore, shows the pilot when the torpedo leaves the airplane through the flashing of a red light (electric) on the indicator. That is the moment when the pilot can divert his plane from the enemy and seek safety. Every minute is priceless.

Exact and detailed instructions for the personnel are delivered with the apparatus and the loading carriage.

GUATEMALA.

ARMY ORGANIZATION AND PERSONNEL.

November, 1922.

At the present time the army of Guatemala consists of two parts: A field army—that is, forces organized with a view to taking the field in campaign; a garrison army, composed of detachments garrisoning the larger towns of the Republic. The field army is all in the capital under instruction by the French military mission. The present composition of this force is as follows:

CORPS OF ARTILLERY.

First Regiment.—One battery 75-millimeter French field guns. Four officers, 60 men, 4 guns. Stationed in Matamoras fort in the capital. Has no harness and no horses. Could be moved for short distances in motor trucks.

One battery 75-millimeter Bethlehem mountain guns. Five officers, 70 men, 6 guns. This is pack artillery and is in good shape.

Each gun section consists of three mules. One carries the gun, one the wheels, axle, and shield, and the third the trail. There is one ammunition mule with each gun section.

Second Regiment.—Three batteries 42-millimeter Hotchkiss mountain guns. Each battery 5 officers, 70 men, 6 guns. This is also pack artillery. There are three mules to each gun section, one mule carrying the wheels and axle, the second mule carrying the gun, and one mule carrying ammunition. This regiment is stationed at Fort San Jose.

MACHINE GUN CORPS.

This consists of three companies of Hotchkiss machine guns, each company having 2 officers, 30 men, and 2 machine guns. These are also pack outfits, one mule carrying ammunition. These companies are stationed in the cuartels in Guatemala City, and are shifted from time to time.

INFANTRY CORPS.

This consists of 3,000 men, divided into four battalions of four companies each. Each company has from 2 to 12 officers and about 150 men, of whom about 100 men per company are always on duty. This corps is stationed partly in San Jose Fort, partly in Matamoras, and in the cuartels in the capital.

CAVALRY.

One troop, consisting of 4 officers and 80 men.

FIELD OFFICERS.

At the present time there are a great number of colonels, lieutenant colonels, and majors assigned to all the orpanizations. This seems to result mainly from the separation of parts of the units. For example, each cuartel in the capital has 1 colonel, 2 or 3 lieutenant colonels, 2 or 3 majors, and from 60 to 100 men. So far as Major Cruse can find out, the field officers seldom attend any drills, and at ceremonies apparently have no direct command over the troops.

GARRISON ARMY.

In all the larger towns of the Republic there are garrisons varying in strength from 200 to 600 men. There is no uniform organization. These garrison forces consist entirely of infantry, and a very few machine guns. There are some of the more antiquated types of small field guns at Antigua, Quesaltenago, Huehuetenango, and Ayutla, but there is no distinct artillery organization at any of these points.

PERSONNEL.

The officers of the higher grade, with the one exception of General Ubico, are not military commanders, but are mere garrison commanders. The limit of their military knowledge will probably be confined to defending a cuartel or clearing the streets in time of trouble. The captains and lieutenants, on the other hand, are mostly graduates of the Polytechnic School, and have now had over a year of instruction under the French mission.

The French mission has succeeded in developing the field arm to a fair state of appearance and probably of efficiency. The members of the mission complain that they can really accomplish very little on account of the constant changes among men and officers. They state that although the same number of soldiers will be present at drill every day, that these soldiers are hardly ever the same two days in succession. They state that the number of officers attending drill with, for example, a battery of artillery will vary from one to ten throughout the week. They also state that if the personnel of the Hotchkiss mountain battery are on guard or other duty, the personnel of a machine-gun corps will be sent down to take out the Hotchkiss battery for drill.

MEXICO.

CONDITIONS IN GENERAL.

Last Quarter, 1922.

Source: Unofficial observer.

Herewith is a résumé of events and conditions in general. All statements as regards revolutionary movements made some months ago have become, you might almost say, in details proven by facts. Murguia, who was considered the strongest leader of the Government's enemies, has been captured and killed. Most of his active followers have met the same fate and only those escaped who were able to return to the United States. General Carrasco and his nucleus of rebels has likewise been eliminated as an element of danger, Carrasco having been killed and a number of his followers captured and shot. Felix Diaz has returned to Havana and Pelaez is making statements to the press from the United States side that he is not a rebel and has not assisted any such movement against the government. His statements are not believed as he has always left his men in the lurch whenever any real danger appeared in the horizon. Troops have been retired from the Huasteca by Sanchez as the region now is deemed clear of rebels.

Many rebel leaders have surrendered and others are conducting negotiations for favorable conditions in order to do so. Carlos

Green's rebels in Tabasco have lost heart and Carlos Green is reported killed, though the report is not confirmed. General Aleman still remains, but he received so many blows that his body of men has been considerably reduced and he does not dare leave his mountain fastnesses.

As I have positively stated before, no rebel movement can succeed against this government because of the fact that the people at large are sick of revolutions and unwilling to join any movement; also because the army of the government has been wonderfully well concentrated whenever necessary and has so skillfully been manipulated by the Sonora leaders by shifting continually their officers that no body of men becomes sufficiently attached to any leader so as to follow him in any revolutionary adventure. All things considered there is no danger of the success of any revolutionary movement headed by the army of the anti-Obregon leaders.

It is also improbable that any blow can be struck by those inside the party as, despite rumors, certain harmony exists. Calles is all powerful as ever and De la Huerta apparently has become eliminated as a cloud on Calles' aspirations and will shortly go to Sonora to assume the governorship in said state. His hopes (De la Huerta's) are based on Calles' physical condition, which is said to be of such grave nature that his time is very brief in life. From his private secretary emanates the statement that he suffers from a cancerous growth on the spinal column and that Mayo Brothers, of Rochester, Minn., refused to operate, alleging that there was not one chance in a hundred for a successful operation. Calles has been sick now at his home for several weeks.

The economic conditions are very critical throughout the Republic and several banks and many mercantile firms have gone to the wall within the last two weeks, among them counted the French Banque du Mexique (Lacaud & Son) with a passive of many millions. People have lost faith in banks and are withdrawing their deposits, resorting to the old method of keeping their money at home. Congress is in session and has been losing time in preliminary study of article 27 prior to commencing the debates on same, but as ever it is believed to be at sea, and that it will probably take the measure from the executive and his advisers who are now studying all features of article 27. In connection with said contemplated legislation, Parri, Minister of Relations, broke faith with Mr. Summerlin, charge d'affairs here, and gave out for publication a note transmitted by the State Department of the tenor that the project of article 27 as gotten up was unsatisfactory. In view of the numerous discussions had between the above-mentioned representatives regarding said pending legislation so that no injury might ensue to acquired rights and the fact that advice has been sought by all those

paid agents and propagandists who have worked for recognition, the publication of said note in an effort to make it appear as an attempt to dictate or interfere with their legislation, all serious minds have looked upon it as a breach of faith and an attempt to make political capital out of it by a play to the gallery. Calles seized upon the opportunity to wire said note to all governors for placing same to the notice of inhabitants, and it was also wired to all embassies and legations throughout South America and abroad.

It has, however, failed of its purpose and it is said the matter formed the subject of a heated discussion between the President and Parri.

A confidential report of Mr. Bushnell, commercial attaché of the United States, has evidently leaked out by some inconceivable blunder so that the same was published in the New York Call in connection with the death of Ricardo Flores Magon at the Leavenworth Federal prison. The same was given wide publicity in all the Mexican press, and as the text of same is very uncomplimentary to the authorities here, he is wiring for his immediate recall.

Mexico City has been almost without water for the last 10 days by reason of the inundation of the compartment where the three pumps were kept and consequent inutilization of same. In spite of conditions, the municipal authorities have done nothing to quickly remedy matters and as a result on the 30th of November in the afternoon a public demonstration became unmanageable and set fire to the municipal building, destroying all the archives. Thirteen persons were killed and over 50 wounded. Deputies who know say it was a Government move intended to eliminate the municipal authorities in the Federal district, which administration is constitutionally provided for. City government collects about 28,000,000 pesos annually, the bulk of which serves as boodle for politicians. The killing was done by firing of the municipal authorities and not Federal forces. The plan is to have the Federal Government take over such administration.

MEXICO.

REVIEW OF ACCOMPLISHMENTS OF OBREGON ADMINISTRATION.

30 December, 1922.

On December 1, 1920, General Obregon, the revolutionary successor to Carranza, entered upon his duties as the constitutionally elected President of Mexico with a program of national reconstruction which, according to him and his adherents, was to lift the country from a state of turbulence and rebellion to a place of dignity and credit among the nations of the world.

Comparing the conditions at the time with the situation of to-day, we find a military situation that is decidedly better; an economic situation that has passed from bad to worse; and an international situation in statu quo.

It can not be denied that Mexico to-day is more at peace than at any time during the past decade. The more pretentious rebel leaders within the country have either faced the firing squad or have died in combat, while the majority of the lesser chiefs have sought and obtained amnesty. The activities of expatriates of known rebel tendencies have been marked of late by their loud disclaimers of any hostile intention against the established Government in Mexico. This successful suppression of open rebellion and control over the more active of the turbulent element is due primarily to the continued loyalty and increased combat efficiency of the army, and secondarily to the present antipathy of the masses of the people toward revolutionary activity and their unwillingness to join or even covertly support the most powerful leaders who have taken the field. But the heart of Mexico is not at peace. Strong undercurrents of dissatisfaction and unrest, based on abject hopelessness on the part of the larger mass of the people, are manifested daily throughout the country. The radical element is increasing. Labor unions have enlarged their sphere greatly, and their radical tendencies and frequent strikes have paralyzed the few industries that remained in existence.

Fundamentally, the desperate economic conditions existing in Mexico to-day may be traced to certain provisions of the Federal constitution of 1917. Principal among these are article 27, which constitutes the thorn of disagreement in international affairs, and article 123, dealing with labor. The first mentioned has deprived the country of foreign investment and enterprise, so essential to economic reconstruction following the long revolutionary period of destruction and waste, and the application of agrarianism has produced a state of hopeless uncertainty among the agricultural element of the people that has resulted in practical abandonment of the farming industry and the consequent necessity for enormous imports of grain and meats. The second tends to create a special class autocracy of labor and is chiefly responsible for the present destructive attitude of the labor unions.

From the political and the military standpoint the present Government has little to fear, but financially it is in desperate straits. The country is entirely devoid of a national banking system; currency is scarce and private banks are lending from their depleted funds only on gilt-edge security and at excessive rates for service. With even the most necessary expenditures exceeding current receipts

and with revenue constantly diminishing, the administration is further faced with the necessity of beginning payment on the public debt in January, 1923, under the terms of the de la Huerta-Lamont agreement. Even recognition by the great powers who have so far withheld recognition would scarcely result in the securing of a much needed foreign loan in the absence of nonpayment on the present public debt as agreed upon.

Viewed in its broader aspect, the great economic problem confronting Mexico is one of guarantees: Guarantees to invested capital; guarantees that will strengthen internal credit; guarantees which will restore confidence to foreign capital; guarantees against the arbitrary and confiscatory application of agrarianism. Proper guarantees will produce capital and the latter will bring production and industrial life, without which the economic situation will not improve.

During the two years of his administration, President Obregon has accomplished none of these guarantees; nothing constructive has been produced by legislative enactment, although the present Congress and its predecessor were elected presumably in support of the Executive and supposedly in harmony with his expressed policies of reconstruction.

While failing in constructive progress along political and economic lines, General Obregon has well earned the recognition of his military title by the effective results he has accomplished in the matter of army reconstruction.

On December 1, 1920, the army contained over 300 separate and distinct organizations, of which number approximately one-third had no legal status. The enlisted strength of about 100,000 men carried an officer personnel of over 21,000, including 700 generals, approximately 5,000 field officers, and over 15,000 company officers. This aggregation of troops consisted chiefly of an accumulation of individual leaders and their followers who had been active in one or more of the many revolutions and military administrations during the previous 10 years, including the support of Obregon in his successful overthrow of Carranza in May, 1920. Graft was rampant, loyalty and discipline unknown, and among the small army of high ranking general and field officers were to be found many political leaders of influence and prestige, whose support was urgently needed by the new administration they had helped to put in power. The military problem was therefore a very serious one; to be successful the support of the army was necessary, but to make this support dependable and effective radical measures had to be adopted, aimed at reorganization and reconstruction.

General Obregon and his newly appointed Secretary of War and Marine, General Estrada, met the situation boldly and without pro-

crastination. The military strength was considered excessive in comparison with military needs and the necessity for economy. It was therefore decided to effect a reduction in combination with reorganization. This was effectively accomplished by retaining the best organized and most effective units, with good military record, and bringing them up to authorized strength by transfer of men from units deficient in organization or with no legal status, and eliminating such organization from the rolls of the army. During the succeeding year this procedure resulted in reducing the number of organizations by over 50 per cent. During the same period the number of officers was reduced by approximately 4,500, including 110 generals and about 1,000 field officers.

Special boards of selected officers were appointed to formulate:

A basic law for the Federal Army.

Penal laws and court-martial procedure, revision of army regulations, and revision of service records and efficiency reports. The work accomplished by these boards or commissions has been highly instrumental in the promotion of discipline and efficiency and assisted in no small measure in the successful carrying out of the reduction and reorganization program without disorder or resort to force of arms.

For the larger part of the commissioned personnel retained in the army, whose military training lacked the fundamentals of military instruction, special tactical organizations were formed in which they were enrolled for a period of training and instruction under the direction and supervision of the national military college. Schools of application for infantry and cavalry officers and technical schools for officers of the technical branches were organized and are functioning in a fairly efficient manner. In addition organization training centers have been established, to which are sent one company or one squadron at a time from the infantry battalions and cavalry regiments for prescribed period of training. Field maneuvers of the separate and combined arms have been attempted, but the actual results of these are not known. Recent war department orders and instructions for the execution of maneuvers, in which all arms and communication accessories were to participate, indicated a clear understanding of sound military principles in the conduct of this class of training.

Regulations prescribing strength and uniformity of unit organization, and territorial and tactical staffs; clothing and equipment; procedure of courts-martial and administration of military discipline; requirement of a higher standard of moral conduct on the part of officers, have been issued and earnest effort made for their enforcement.

During the past year the strength of the army has been further reduced in both officers and men. On December 1, 1922, the army consisted of approximately 9,000 officers and 64,000 men. The principal arms had been reduced to 51 battalions of infantry, 74 regiments of cavalry, and 4 regiments of artillery. A committee appointed to study the question of a further reduction to 50,000, in accord with the announced policy of the administration, recently submitted its report to the President in which it was recommended that no further reduction be made in the military force of the nation.

The successful campaign in which the entire Federal Army was recently engaged in the suppression of rebel and bandit disorders was characterized by great rapidity of troop movement, concentration of sufficient force to successfully carry out the mission assigned, and the prompt relief of commanders who showed hesitation in action or were guilty of derelictions of duty. In connection with the latter it has become an established policy with the present administration to make frequent changes in commanders and in the station of troops with a view to lessening the chances of troops becoming unduly attached to individual leaders or influenced by unscrupulous or disgruntled local politicians.

The Mexican Army of to-day represents a real asset to the nation. In comparison with military standards of the great powers it would receive a low rating, but in comparison with Mexican standards it may be considered as the most effective military force produced since the time of Diaz.

Obregon has the unquestioned loyalty of the army; a congress which is distinctly favorable to him in the chamber, and not openly antagonistic in the senate; and a certain harmony of purpose within his cabinet. Despite rumors of disagreement and personal jealousies, Obregon and his two colleagues from his home State, Calles and de la Huerta, have maintained throughout the past two years the cooperation and cohesion of purpose which successfully swept Carranza from power.

RUSSIA.

PRESENT CONDITION OF BLACK SEA FLEET.

10 November, 1922.

Source: Russian naval officer in Constantinople, whose information is considered reliable and up-to-date.

At the present time the only fighting naval units possessed by the Bolsheviks in the Black Sea are the submarines. Of these there are five, a part of them having a division organization and the remainder operating individually. The names are as follows: *A. G. 23*, *A. G. 24*, *A. G. 25*, *A. G. 26*, and the *Verpa*. The first four are all of the Holland type, displacement 350 tons, 13 knots surface speed, 9 knots

submerged. Their armament consists of 4 bow, 45-cm. torpedoes—these being of the last type evolved by the old Russian Navy and resembling our Bliss-Leavitt, in that they are equipped with superheaters. On deck is carried one 57-mm. gun of high-angle fire for use against ships or planes. The *Nerpa* is of the Russian type *Guepad*, is of 600 tons displacement, surface speed 16–17 knots, submerged speed 11.5 knots. Her armament consists of 2 bow torpedo tubes and 8 tubes mounted according to the Djevetsky system. These are all of 45 cm. and equipped with superheaters. On deck she carries two 100-mm. 60-caliber guns and one 57-mm. antiaircraft gun. All submarines, in addition, carry two Maxim machine guns. All are equipped with 2½-kilowatt radio sets. It is understood that the A. G. boats have a very restricted radius of action but that the *Nerpa* is capable of considerable cruising.

All of these submarines are in good operating condition, their supply of torpedoes is well sufficient for their number, and the personnel consists mostly of the submarine men of the old navy who have had years of training both before and during the war.

Attached to the submarines is a mother ship, the *George*. She is a former passenger ship, of 700 tons, and of 12 knots speed and mounting two 57-mm. antiaircraft guns. It is intended to mount a 100-mm. 60-caliber gun on her stern.

In addition to the submarines, there are, in the Black Sea, two gunboats, four torpedo boats, and numerous miscellaneous craft.

The gunboats, named *Terets* and *Koubanets*, were built at Nickolief in 1888–89. They displace 1,700 tons, have a speed of 10 knots, and an armament of two 130-mm. 60-caliber, one 100-mm 60-caliber, and two 57-mm. antiaircraft guns. They are equipped with 3½-kilowatt radio sets. The *Terets*, up to recently, used to transport soviet officials around the Black Sea, but recently both boats were used as school ships.

Of the torpedo boats, two are of the type of the *Sokol* (built by Yarrow). These have a tonnage of 240 and a speed not exceeding 18 knots. The third is called the *Zavetny*, is of an improved *Sokol* type, with a displacement of 350 tons and a speed of 24 knots. All of these boats carry two torpedo tubes of a 1913–14 design, two 75-mm. and one 57-mm. antiaircraft guns. They are fitted for carrying 20 anchored and 45 floating mines. The fourth boat is the small *Letchnik*, of 90 tons, carrying one 75-mm. and one 47 47-mm. gun, and having a speed of 17 knots. All of these boats have been engaged in dispatch service around the Black Sea between signal stations. They are also engaged as school ships in training seamen for service on the larger ships which are now building or being repaired at Nickolief.

There are 32 subchasers, 28 of them being of the American type. These 28 carry one 47-mm. and one 37-mm. gun and one machine gun

and have a speed of about 20 knots and are capable of carrying and launching 8 floating mines. They do not operate farther than 120 miles from their base. There are 4 subchasers of the *Speedy* type, carrying one Whitehead torpedo on the stern and capable of 35 knots speed. The soviets have intended to increase the number in the Black Sea by bringing additional ones from Arkangel and Petrograd, but as yet these have not arrived.

There are several mine sweepers, of a speed of 10 to 13 knots, carrying one 47-mm. and one machine gun. They are also equipped for laying 4 anchored mines or 7 floating mines each.

The motor mine barge *Mina* has a speed of 7 to 8 knots and can transport 80 anchored mines and 200 floating ones. At Sevastopol there are at present, in good order, all of the wire nets and equipment necessary for laying such obstructions in the sea area of Sevastopol. These were constructed in 1916.

The following ships are being constructed or repaired in the Black Sea ports:

At Nickolief there is the cruiser formerly named the *Nakhimoff*, which is of the type of the *Wiebaden* and which is now about 95 per cent completed. She is waiting for her armament, and it is expected that she will be able to make 29 knots speed. The two turbine-driven destroyers *Levkos* and *Korfu* are in a very poor condition. At the beginning of this autumn, repairs were being made to the docks at Nickolief but that has been stopped and the workmen diverted to making munitions for the Turks.

At Sevastopol there is the cruiser *Pamiat Merçouria* and the destroyer *Zante* (of the type of the *Novik*). On the cruiser the main engine cylinders are being replaced by those from the cruiser *Bogatir* or from the *Oleg*. This cruiser will also be fitted for carrying and laying mines. On the *Zante* the 6-inch guns are being replaced by 130 millimeter, 60-caliber guns. Work is progressing very slowly, due to the fact that most of the workmen are engaged in the manufacture of mine parts and anchors at the works of Troetskaya Balka, where they are being made for the Anatolian ports.

In addition to the above naval ships, in case of a mobilization, there are six large motor barges that would be requisitioned by the Black Sea Fleet from the volunteer fleet or from their owners. These are of the type of *LPD 4* and are numbered as follows: *413* to *418*, inclusive. All of these craft were built at Nickoliev in 1916, displace 2,000 tons, have two 350-horsepower oil engines with a speed of 10 knots, and draw 8 feet of water. In case of war they would be armed at Nickolief and Sevastopol in about three weeks with two 130-mm., 60-caliber, one 75-mm., and two 57-mm. guns, and equipped with 2½-kilowatt radio plant. They would be used as gunboats, as troop transports, or as mine sweepers. They can carry one infantry

battalion in full equipment or 300 mines in the holds and 60 on deck. They are equipped also for sweeping mines and for towing.

Icebreaker *No. 4* with a tonnage of 1,000, develops 2,000 horsepower, has a speed of 16 knots, 18 feet draft, has a 2½-kilowatt radio outfit, and mounts one 130-mm., one 100-mm., and four 57-mm. guns.

Also there are six steam river gunboats, with a speed of 10 knots, displacing 2,000 tons, and mounting two 6-inch and two 57-mm. guns. These boats rendered good service for the Bolsheviks during the civil war, and they are paying especial attention to them now, looking to them for hard service in case of war with Rumania. They are kept in the mouths of the rivers near Odessa. The equipment and stores for these boats are kept in Sevastopol, Nickolief, Kertsh, and Mariouple.

The "Volunteer Fleet" at time of mobilization must further provide 25 steam and 22 motor mine layers and sweepers. Most of these are river boats on the Boug, Denieper, and Don Rivers. The armament, according to the size of the ship, will consist of one 6-inch, 45-caliber gun, or one 75-mm. and one 47-mm. gun, or one 57-mm. gun. Altogether they are capable of handling 1,000 anchored mines and 1,400 floating mines.

All of the merchant ships are under the control of the "Water Transport of the Black Sea." The following is the list of Soviet ships in the Black Sea to-day that could be used as transports in case of war:

Name.	Capacity in pouds.	Capacity in men.	Capacity in horses.
Ai-Petri	60,000	1,000	120
Alexandra	150,000	2,000	180
Aloushta	6,000	250	.....
Amalia	25,000	800	.....
Aiou-Dagh	60,000	1,000	120
Vania	25,000	800	.....
Victor	30,000	600	50
Vosroshoenie	30,000	1,000	60
Volodia	10,000	300	.....
Vietche	120,000	2,500	200
Gourzouf	2,000	250	.....
Dimitry	30,000	1,100	50
Lelia	40,000	400	50
Peter	10,000	500	50
Former Prince of Oldenbourg	40,000	1,800	100
Prorok Iona	20,000	400	50
Elbrous	50,000	200	120
Pestel	60,000	1,200	100
Poty	70,000	1,800	100
Dsershinsky	5,000	400	50
Souvorof	6,000	400	50
Nestor Letopisets	7,000	500	60
Tchervonna Ukraina	5,000	600	60
Azov	3,000	300	50
Anna	1,500	300	50
Baboushka	2,000	300	60
Dogmara	6,000	200	.....
Ilia Morosov	15,000	200	50
Pantikopeia	25,000	400	.....
Guiponis	15,000	300	.....
Gucorgii	25,000	600	.....
Ioupiter	2,000	500	50
LPD 413			
LPD 414			
LPD 415	20,000	1,000	20
LPD 416			
LPD 417			
LPD 418			
Total	1,072,000	29,600	1,950

At present, the Black Sea fleet is well supplied with mines and ammunition, which munitions are stored at Soukharnaya Balka, near Sevastopol. The recent gun-target practice in the Gulf of Tendra gave very poor results, but the mining practice, both laying and sweeping, was comparatively good. The quantity of submarine nets and their accessories are quite sufficient also. At Sevastopol there are net outfits for the barge *Mina* and the ships *Danube*, *Poty*, *Ai-Petri*, *Elbrous*, and *Aiou-Dagh*. The submarine practice held in the Gulf of Tendra also gave good results. The majority of the crews of the U-boats have been in them for a long time and the commanders are mostly specialists in their line. The best U-boat commander in the Black Sea fleet is ex-Captain Vahktin.

The air service of the fleet is in a very bad condition. There is one brigade consisting of four detachments, each detachment supposedly consisting of 6 to 8 seaplanes of a German type FG. But in Sevastopol there are 6 planes; Odessa, 4; Novorossisk, 2; and Kertch, 2. It is intended to form detachments in Soukoum and Batoum, but as yet this has not been done. There have been reports received that experiments have been carried out on Lake Ladoga with torpedo planes, using Whitehead torpedoes, and that a detachment of these planes was to be sent to the Black Sea, but this has not yet been confirmed.

The main operating base of the Black Sea fleet is at Sevastopol, and the main repair base at Nickolief. Auxiliary bases are at Novorossisk, Odessa, Kertch, and Touapse (which has the workshops of the Touapse-Armavir railroad). These bases can supply water and fuel and give a shelter. At Nickolief three plants are in operation—Novat, Russoud, and Remsoud—employing about 4,000 men (1,500 being specialists). The director of these works is the former assistant director of the Baltic Shipbuilding Works—Engineer Gordenin. The stores at Sevastopol at present amount to not more than 200,000 pouds of coal and 5,000 pouds of oil.

In command of the fleet is the chief of sea forces, who is a member of the revolutionary committee of the fleet and under the jurisdiction of the committee. This chief of sea forces is also under the navy commissariat of the Republic (a member of the revolutionary war committee) and in the matter of operations, he is under the commander in chief of the Ukraine. This chief of the sea forces is in control of all the ships, air forces, and coastal signal stations. He has under him a chief of the ports, who is responsible for all supplies, personnel quartered on shore, workshops, and repair bases. Up to the present this chief of the sea forces is former Lieutenant Pantsourshevsky. He is of very ordinary caliber, and is soon to be replaced by Captain Vakhtin or Bartenev (gunnery specialist). Vakhtin is a very efficient and energetic naval officer. The majority of the officers of the fleet are former Czarist officers.

The enlisted personnel has deteriorated greatly since the demobilization, but many intelligent men are willing to enter the fleet, either to obtain food or to escape the army service. Intoxication has spread very greatly. Clothing and food issues are fairly satisfactory, the ration being about what it was before the revolution. Political propaganda is not very popular among the sailors, and they are often driven to the meetings of the revolutionary societies.

RUSSIA.

EVIDENCES OF IMPROVED CONDITIONS.

1 December, 1922.

CHEERFUL NEWS FROM RUSSIA.

Travelers in and out of Russia are still so few as to make any first-hand evidence of the changing conditions there interesting. One of the Friends' relief workers (the London correspondent of the Manchester Guardian) was able to see for himself as he traveled about between the famine districts and the great cities how much things are changed between the visit he has just made and his last visit a year ago.

His report is cheerful, as showing that Russia is rapidly becoming herself in many ways, since the iron doctrine of communism began to weigh less heavily on the people. He was struck by the improvement in transport, which is all-important in Russia. Last year the railway junctions were everywhere crowded with worn-out or damaged engines which could not be repaired. The noticeable thing now on the lines is the number of new German and Swedish engines, which have been bought during the last few months. There has been a very great increase, due, it is said, to a large purchase in Leeds, of oil trucks distributing the Baku oil throughout Russia.

The train service generally is very much better. There are now, for instance, three trains a day between Moscow and Petrograd, and the journey from Moscow to the Volga takes 3 days, instead of 10. Last year very few shops were open in Moscow; now they are nearly all reopened, and anyone can open a shop without restrictions.

The Russian owners of mills and factories are getting their property back from the government. My informant heard of a Moscow mill owner who last year was reduced to receiving food packets from his relatives outside of Russia through the American Relief Administration. He has written to say that he has received his mills back from the government and can buy anything that he needs.

More private cars are seen about the streets, horses look in better condition, and a beginning is being made in Moscow at repairing and repainting the dilapidated buildings. The trams are no longer restricted to the workers.

Referring to the above item, I talked with passengers recently arrived in China from Moscow via the Trans-Siberian Railway. The statement was made and is undoubtedly correct that the Trans-Siberian Railway is now running with fair regularity and the trip

from Moscow to Harbin is made in 14 days, and that passengers come across in that time. It is probable, however, that passengers of other nationalities than Russian would have difficulties with passports, which would make the trip longer for them.

The train service is said to be excellent as regards equipment, general track conditions, and service, and the assertion was made by a Russian lady that the third-class accommodations of the Trans-Siberian Railway equal the first-class arrangements on the Peking-Mukden line. The cost of a third-class ticket from Moscow to Harbin was given at 65 yen.

It was further asserted that the service between Moscow and Harbin would soon be a 10-day service with train running at least once a week.

It was further reported by these passengers that the present conditions in Russia are much improved and that in Moscow conditions are like those of 1914. Supplies of all kinds are said to be plentiful and most luxuries can be obtained and the jewelry stores find a ready sale for diamonds.

RUSSIA.

NOTES ON ARMY AND NAVY.

7 December, 1922.

Recent newspaper reports state that Trotsky is extending the organization of the armored trains in the Soviet Army. According to his recent orders one section of armored trains will consist of two light and one heavy train. The armament of a light train will consist of 12 Maxim or Vickers machine guns; that of the heavy train will consist of six 15 cm. howitzers and six machine guns. One motor division and one auxiliary detachment will be assigned to each brigade of these troops. The brigades have been distributed since April 1 as follows:

1st Brigade at Pskow.
2nd Brigade at Bologoje.
3rd Brigade at Petrograd.
4th Brigade at Petrograd.
5th Brigade at Wjasma.
6th and 7th Brigades at Oranienbaum.
8th Brigade at Brjansk.
9th Brigade at Grjasy.
10th at Zarizyn.
11th at Jekaterinoslaw.
12th at Konatop.
13th at Tichoretzk.
14th at Snamemka.
15th at Odessa.
16th at Tiflis.

A further report states that after a recent inspection of the Black Sea fleet by Trotsky, the latter stated that conditions in the fleet were very bad. There is a great scarcity of clothing and shoes for the men. There is no bed linen nor covering available for the men, and they have to sleep in their clothing and cover themselves with their overcoats at night.

RUSSIA.

OBSERVATIONS UPON CONDITIONS IN KAMTCHATKA.

August, 1922.

Note.—The following extracts are from the report of an officer who accompanied a recent Government commission to the Orient.

The U. S. Coast Guard cutter *Mojave* was placed at the disposition of our party. I was put ashore at Petropavlovsk, Kamtchatka, August 10, 1922, where I had arranged to return to Alaska on the *Mazatlan*, a trading vessel chartered by Olaf Swenson & Co., of Seattle, and then at Okhotsk. After the departure of the *Mojave*, word was received that the *Mazatlan* would be delayed a month or so. I was refused transportation upon a Japanese transport bound for Hakodate. The reason alleged was "No room." The Russians offered to take me on their gunboat *Magnete* and drop me off at Nome after taking possession of Anadyr, but their movements were so uncertain I declined. I finally got away on August 27, 1922, on the Japanese tramp *Inabasan Maru*, bound for Hakodate, and returned to Juneau only two weeks later than originally planned.

During the two weeks that I remained in Petroplavlovsk and vicinity I had an opportunity to observe the operations of the Russians and to learn something of living conditions on the Kamtchatka Peninsula. I obtained a Kamtchadahl guide and made a 90-mile trip on horseback into the hinterland, visiting Zavoika, Paratunka Hot Springs, and intermediate villages.

My itinerary: Juneau, Cordova, Chitina, Fairbanks, Nenana, Anchorage, Seward, Karluk, Chignik, Kings Cove, Ikatan, False Pass, Akutan, Unalaska, Dutch Harbor, St. George Island, St. Paul Island, Nome, Emma Harbor, Anadyr, Dutch Harbor, Komandorski Islands, Petropavlovsk, Zavoika, Paratunka, Petropavlovsk, Hakodate, Aomori, Tokyo, Yokohama, Seattle, Vancouver, Prince Rupert, Ketchikan, and Juneau.

At the time of my visit the Far Eastern Republic or Chita Government originally organized as a buffer State between Soviet Russia and Japan, nominally controlled the three Provinces of eastern Siberia, namely, Transbaikalia, Amur, and the Maritime

Province, with an aggregate area of 659,000 square miles, slightly larger than Alaska (590,000 square miles). Actually the Maritime Province, 266,000 square miles in area, had defected from the Republic in May, 1921, and was controlled by a secessionist government set up in Vladivostok. This "White" government of Vladivostok controlled Petropavlovsk and was attempting to extend its influence eastward as far as East Cape. Having finally secured coal, the "White" gunboat *Magnete* did finally get away and took possession of Anadyr late in the fall.

Alaska occupies a very favorable position from which to engage in the Siberian trade. From Nome or Unalaska (Dutch Harbor) to Petropavlovsk is about 1,300 miles; from Petropavlovsk to Hakodate is 1,100 miles, and to Yokohama is 1,700 miles; from Yokohama to Nagasaki is 700 miles; from Unalaska to Seattle is 1,700 miles. All of Siberia from Kamtchatka north is nearer to Alaska than it is to Japan. Japan extends for a great distance along the coast of Asia. From Hakodate in the north to Nagasaki in the south of the main group of islands is 1,250 miles; while from the northern end of the Kuriles or of Saghalien to Formosa is nearly 3,000 miles.

Kamtchatka, in contrast with western Alaska or northwestern Siberia, is well wooded, there is no frozen ground, and cattle, horses, pigs, fowls, etc., are plentiful. The land is excellent for agricultural purposes. Considerable agricultural development has taken place. But the Kamtchadahl is not much of a worker, not only because of the unsettled political situation which, after all, affects the interior native to a very small extent, but also because he can catch enough fish (salmon) in a few days in the summer to keep him all winter, and by trapping two or three sables in the winter he can trade the skins for enough flour, sugar, cloth, and other trade goods to supply his other wants. Traders were paying as high as $125 cash for the best sable skins.

The principal traders operating in Kamtchatka and the Okhotsk Sea were the following:

Olaf Swenson & Co., American, Seattle; from the Kolyma River on the north coast of Siberia around to Okhotsk on the Okhotsk Sea.

Denbigh & Co., British; Hakodate, Kamtchatka, and Okhotsk Sea.

Seidenberg & Wittenberg, American, Seattle and Nome; Kamtchatka and Okhotsk Sea.

Hudson Bay Co., British; same area as Swenson.

The Kamtchatka Peninsula is about 700 miles long and has an average width of 200 miles. It is thus about three times the size of the State of Pennsylvania or about the size of Japan. It is very sparsely settled. The principal activities at present are stock raising, fishing, and trapping. There is no mining.

I was surprised to find the extent to which the old Imperial Russian Government had extended its control to these far eastern and quite isolated points. At Petropavlovak there is a fine radio station, with high steel towers. There were Government school buildings, a bank, a complete battalion army post, and two large groups of buildings for the governor and his staff. All buildings were very substantially built of wood and were in a good state of preservation. There were three monuments, commemorating battles or sieges in which the city has figured, one a very elaborate mausoleum with bronze tablets in memory of British, French, and Russian sailors and soldiers killed there. Another monument commemorated the Bering expedition.

A 165-mile road extends from Petropavlovak over into the Kamtchatka River Valley. The Kamtchatka River is then navigable for river boats for about 200 miles to its mouth at Usk-Kamtchatsk. A branch road extends across the peninsula to Bolsherevsk, on the Okhotsk Sea. Government telegraph and telephone lines extend all over the peninsula. The roads were originally passable for the light Russian (narrow gauge) wagons, but many of the bridges are now broken down. General repairs are badly needed throughout. A flivver could get as far as Zavoika, 19 miles out of Petropavlovsk, but there are at present no cars in Kamtchatka. Along the Kamtchatka River are a number of trading posts and fishing camps.

When I arrived at Petropavlovsk the district was under the charge of a civilian governor, Berich, an ineffective individual, who seemed to fear assassination more than anything else. Liquor was abundant, the soldiers out of control, and brawls and shooting scrapes of almost nightly occurrence. The traders were requisitioned for rifles and ammunition, and later the soldiers would sell back these same rifles and ammunition, and in one case that came to my notice presented a permit from Berich authorizing the sale. One of the traders cabled to the States to cancel an order for rifles and ammunition, and the censor would not let the message go through, because he said the governor wanted the rifles. A few days before I left, Berich was replaced by a naval officer from Vladivostok and a stop put to all disorder. The soldiers were equipped with military rifles and the sporting rifles all turned in. Additional soldiers and sailors were brought from Vladivostok, as well as coal, flour, rice, and other supplies. A noticeable improvement in conditions immediately resulted. The first Sunday after the arrival of the new governor all the troops, five companies, were paraded and then marched to high mass (Greek Catholic).

The soldiers and sailors were all well dressed and well fed. Their uniforms were of good cloth and new looking, their boots, leather belts, caps, and other accoutrements of real leather, and sufficient

gasoline was always on hand to run the official launches. Of course, hardly any two soldiers or officers wore the same uniform, nor did there seem to be any uniformity in the many colored stripes and patches on shoulder straps and collars. Some of the sailors wore high leather boots. Many officers and men of both the army and navy were wearing one of the Tsar's decorations for service in the World War.

Petropavlovsk is a city of about 1,200 people, of whom about 350 seemed to be on the Government pay roll, or at least holding Government jobs and drawing Government rations. I do not think there was any pay roll, but the ration allowance seemed to be liberal. Japanese (and Korean) paper money was used exclusively. A yen was worth 50 cents in United States gold. The exchange fluctuates around 49 cents. The Russians usually counted in rubles, but used a yen as a ruble. All Russian paper money of all issues is valueless and out of circulation in eastern Siberia. Russian 5-ruble gold coins were still in circulation and, of course, worth face value (about $2.53) and counted as yen.

The Government in payment for supplies requisitioned from the traders gives checks on the Government bank in which there is no money. These checks were deposited and a regular account kept in which the bank money was spoken of as "wooden rubles." Whenever import, income, trade license, or other taxes are due, the trader then gives the Government a check against his wooden ruble account in the bank. If the trader can do enough business with outsiders to pay more in taxes than the Government requisitions in supplies, he can turn his trade goods and his wooden rubles into real money or furs. Needless to say, the Government always keeps somewhat ahead, but not enough ahead to discourage the trader, who besides is tied up with long credits in the fur trade, etc.

A regular mail boat, the *Kobe Maru*, operates between Hakodate and Kamtchatka points on about a monthly schedule. Trading vessels not on regular schedules were coming and going continuously. The *Sechan*, a Russian vessel of the former volunteer fleet, brought 600 tons of coal and an abundance of supplies of all kinds with the new governor from Vladivostok. It was generally understood that Vladivostok could not hold out against the Chita Government after the Japanese effected their evacuation in October. The "whites" were planning to move their headquarters from Vladivostok to Petropavlovsk, where they could probably hold out till spring, and many things might happen during the interim. While I was there the Japanese cruiser *Niitaga* was sunk with all on board (about 385 officers and sailors drowned) by a typhoon, and one of the two destroyers in the harbor of Petropavlovsk went aground.

The city has no light plant, water system, nor paved streets. Barrel carts deliver water daily. There is a municipal bathhouse and a

theater. The houses are of wood and very strongly built with double windows. Cattle and pigs were very plentiful and were let run loose in the streets.

There was a Japanese consul and a Swedish vice consul. An American vice consul had been transferred from Batavia and was on his way north, but had stopped off at Okhotsk to investigate conditions in the mining district to which a number of Americans had stampeded in the spring. A Swedish scientific expedition had been working on the peninsula for several years and expected to remain for another year. Upon landing I was required to register with the chief of police and to get his permission to ride into the back country, though 2 miles out of town I passed into the enemy's lines.

I visited the following villages on my horseback trip:

Saraglaski, 3 miles north of Petropavlovsk on Avacha Bay; population 200; fishing village; gardens; live stock.

Avacha, 10 miles north of Petropavlovsk, near mouth of Avacha River; population 150; some agriculture.

Zavoika, 19 miles north of Petropavlovsk on Avacha River, west bank; road from Petropavlovsk arrives on east bank; river not fordable; crossed by boat; horses swam; population 200; fishing village; big run of salmon in river; native trap very ingenious; good agricultural development; abundance of horses, cattle, and fowls.

Hooter, 4 miles south of Zavoika on west bank of Avacha River, head of launch navigation in dry weather; 6 houses; agriculture.

Nikolaievsk, 11 miles southwest of Zavoika; agricultural village; 10 houses; counted 85 cattle, possibly 15 horses.

Mikija, 15 miles southwest of Zavoika; 6 houses.

Paratunka, 20 miles southwest of Zavoika on Paratunka River, about 8 miles above mouth on northwest side of Avacha Bay; hot springs and bathhouses; 20 houses; counted 35 cattle.

The main road from Petropavlovsk to the Kamtchatka River Valley in general follows the telegraph line. The distances in versts are:

	Versts.
Petropavlovsk to Zavoika	28
Zavoika to Nachikee	58
Nachikee to Kamtchatka River	145
Side road from Zavoika to Paratunka	30
Side road from Nachikee to Bolsherevsk	120

RUSSIA.

REPORTED GERMAN AID IN RECONSTRUCTING BLACK SEA FLEET.

21 December, 1922.

The following report was obtained from a Russian whose information in the past has proved reliable:

Early in June of 1922 Soviet Russia concluded an additional secret treaty with Germany in regard to regeneration with German help of the Soviet Baltic

and Black Sea Fleets. According to the details of this agreement all work of restoration of Soviet sea power was transferred to the hands of a special commission detailed by the German navy staff. The Red Council of Labor and Defense provided that the program must consist in gradual issue of new ships which qualitatively and numerically will replace all ships destroyed during the war and revolution. The ships to be built must be in type similar to the lost ones.

German special commission found this solution of the problem of restoring Russia's sea power highly unsatisfactory and the project was turned down. The following considerations were submitted by German commission:

Lack of financial resources, materials, shipbuilding yards, and qualified labor will delay the program of Labor and Defense Council providing large number of new battleships and battle cruisers taking many years, thus making the program valueless as the Soviet Fleet will be unable to take part in the next war. Consequently there is no use of building new warships like battleships and battle cruisers. The program does not answer interests of Soviet Russia, and is out of question at present.

Instead of this the German commission has presented its own project, suggested by German navy staff, approved by all German naval specialists, which calls for the intensive construction of a large number of submarines and a small number of destroyers. The new battleships should not be constructed at all. The work on the ships, construction of which is now in progress, should be continued on.

According to originators of this project, Soviet Russia could quickly and without appreciable expenses build powerful flotilla of submarines which will enable Soviet Russia to defend her coast line threatened by enemies' fleets, as well as conduct active operations against hostile fleets. Technically this project, presenting no difficulties, could be achieved in shortest period possible, because submarine building facilities of Germany highly developed during the war were left practically intact. There is abundance of constructive materials for submarine building as well as highly trained bodies of experienced workers and specialists.

As soon as German program was accepted by the Council of Labor and Defense, Soviet Government concluded a secret treaty with Germany. Germans insisted that owing to very complicated and threatening situation in Near East the construction of Black Sea Fleet should be put foremost. The plans provided for construction of sufficient number of submarines necessary for closing down Bosporus, paralyzing enemy's fleet, and preventing its passage into Black Sea. The minimum number of submarines was put at 24, which in future should be raised to 56 for Black Sea. In order to achieve this program Soviet Government has transferred to Germans Nikolaeff Navy Yard.

Immediately upon arrival at Nikolaev German commission began organization of submarine construction. Big plants of Naval Rassul and Remsud, with 4,000 workers (1,000 skilled labor), were put in operation. Ten per cent of workers are German instructors imported from Germany. Well-known navy specialist-engineer Gardenin is supervising the work of all three plants. Russian workers get their wages in kind and paper currency, while Germans get theirs in gold rubles. Germans have suppressed all communist propaganda, replacing it by Nationalist propaganda. The workers are taught that in building Russian navy they are uplifting Russia as a sea power which will lead to their own happiness and assure their personal welfare. The 8-hour work day does not exist any more. The workers work overtime and work usually 10 to 12 hours daily.

At present Nikolaev Navy Yard is engaged in completing cruiser *Nakhimov* and destroyers *Korfu* and *Leukos*. It is probable that the name of *Nakhimov* will be changed to *Mustafa Kemal Pascha*.

Extensive repair work is going on on six gunboats of Epidifor type. The guns were removed and are kept at Nikolaev navy base to be ready in case of general mobilization.

So far Germans succeeded in launching at Nikolaeff four submarines of American type A. G.—*23*, *24*, *25*, and *26*. They are brought to Nikolaeff in parts from Baltijsky Ship Building Yard and assembled by Nikolaeff Navy Yard. Repairs were completed on old submarine *Nerpa*.

Chief of submarine division is Captain of the First Rank Vakhtin.

First consignment of submarine parts of mixed type has already arrived at Nikolaeff from Germany. Storage batteries for this party were sent from Baltijsky yard. The batteries were taken off old Russian submarines.

It is expected that by new year Nikolaeff Navy Yard will launch six other submarines.

Simultaneously with the work of assembling the submarines sent from Germany the yard has laid the keels of two new submarines and one destroyer.

SPAIN.

POPULAR UNREST.

12 December, 1922.

The situation in Spain to-day is not unlike that following the war with the United States in 1898. In reading over the history of those times one is struck by the similarity, the same political unrest, and popular demands that the responsibility be fixed and someone punished for the gross mismanagement of colonial and military affairs. Only in 1899 it soon became evident that the country was really benefited by the loss of her colonies, and the indignation soon subsided, while to-day Morocco is still a burning question, many lives have been lost, and unless some reforms are made more men and money are likely to be sacrificed, and the problem is still far from a solution.

The Spanish people are notoriously patient and long-suffering, but the spirit of discontent among the masses is increasing to an extent that may become alarming. They know that something is radically wrong, and being unable to place the blame definitely on any one else, a strong feeling against the King and the monarchy is developing. The "man in the street" is convinced that the King personally ordered the advance of the army in Morocco which led to the disaster, and that he should therefore be held responsible. Although this has been officially denied, no convincing evidence has been produced to substantiate the denial, so it would seem as if the belief may have some foundation.

On Sunday last a large popular demonstration was held in the streets of Madrid to demand that the responsibilities be fixed. Many prominent citizens took part and there was no disorder.

SPAIN.

POLITICAL UNREST DUE TO INVESTIGATIONS OF MOROCCAN DISASTER.

5 December, 1922.

The recent developments in Greece have created a great deal of interest in Spain. The execution of those found by court-martial to have been responsible for the disaster to the Greek Army has been the subject for much comment in the press in connection with the present discussion and investigation of responsibility for the rout of the Spanish Moroccan Army. As a general rule, foreign affairs receive very little attention from the Spanish people, whose interests are almost entirely local. So the present agitation may be rather significant. The Correspondencia Militar, the paper which voices the opinions in military circles, has been very forceful in demanding that if the military leaders are to be punished for the disaster to the Spanish Army, the Government officials in power at the time should bear their share of the responsibility, and should be punished too. The Senate has reported in favor of turning over General Berenguer for trial by court-martial. As a Senator, he is immune from trial, without the consent of that body. The ministers of the Government of Allendesalazar, who was prime minister before the disaster occurred, are also accused of responsibility. As a result, two members of the present Government, who were also in the cabinet of Allendesalazar, have resigned. The other ministers offered their resignations at the same time, but as the king expressed his entire confidence in the Government, the resignations were withdrawn and the crisis averted.

The recent rise of the Fascisti to power in Italy has also created unusual interest in military circles. The Spanish Army has a large and powerful political organization which has probably not lost much power by the official abolishment of the "Juntas"; they are always an important factor to be considered. Unlike the Fascisti, however, the Spanish military party lacks leaders of energy and ability; so there is little probability of any drastic action, though the political unrest has increased to a marked degree. There is an insistent demand from all quarters that all those who are to blame for the inefficiency of the army and the Government, which resulted in the loss of thousands of lives, should be punished and that definite

steps should be taken to reform the existing conditions. Each political leader places the blame on a different party, and, as the mismanagement of Moroccan affairs has extended over the past 10 years, during which time many different factions have been in control of the Government, the situation is decidedly complicated and confused.

TURKEY.

CONTRASTING EXPERIENCES OF TWO PARTIES OF REFUGEES.

November, 1922.

Note.—These two reports are from neighboring operating areas of the Near East Relief.

1. On November 19 there arrived at Ceasarea 700 Greeks, mostly women and children, who have been driven by force on foot from the villages near Smyrna. Government had given them no food on the way, their condition may be judged from the following facts: One of our American women brought into our hospital with truck 29 who had fallen on the road and been left to die. Of these 2 died before arrival at hospital; 14 died in the following 10 days. They all cried for bread and suffered most terrible pain; their mouths were bleeding, teeth loose, bodies covered with sores, filth, and lice. Of the 700 who arrived about 10 die daily. This is a direct result of their exposure and starvation on the road. We are helping as much as possible. Large proportion are going to die. This group was about 4,000 when they were driven from their homes after Turkish victory. Men were separated from women and children and not heard from since. Over half of the women died on the road. We have seen their bodies by the road. The group of which I speak is only one of many.

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2. All Armenian orphans have now been removed from Harppot, Malatia, Mezra, etc. Fifteen groups of children have been moved and all have reached Syria without serious injuries or suffering excepting one lad who came out with Mr. Gregory's party who was drowned in a river to which the youngsters rushed before proper protection could be afforded. Turkish officials both of high and low degree have vied with each other in protecting our folks as they have passed through the villages and over the dangerous mountain trails. Kindnesses unnumbered have been shown and very few discourtesies, and these only near the southern border of Turkey. In one case the villagers crowded about and scared some of the girls, although doing none of them any harm. Mrs. Kunzler went at once to the village and told the sheik of the annoyance and demanded protection. His response was a great oath that he would kill the next villager who annoyed any of her people. I do not know whether he killed any villager, but I do know that no company passing through that village was ever annoyed again. In fact, it was remarked that even the children failed to gather around as the caravans passed through the streets.

Our reports should give high praise to the Turkish officials for their care and to the Turkish populace for their considerate treatment. I seriously question whether it would be possible to move a group of American colored people through several States in the South without more of embarrassment and annoyance.

TURKEY.

PROMINENT PERSONALITIES AT ANGORA.

16 December, 1922.

Source: An American who has been negotiating with the Nationalists for certain concessions.

Turkish deputies are paid $120 a month and cabinet officers get $150, so these men, who have given up their personal affairs and comfortable homes, are not animated by mercenary motives when accepting positions under the Government.

Rouf Bey, the Premier and a naval officer by profession, has lived in America and England, and besides being a man of broad ideas, energetic, and patriotic, has a wonderful personality. I have never heard anyone, no matter what his nationality, say a word of criticism about him.

Feizi Bey, the Minister of Public Works, with whom I have been thrown more intimately than the rest, is a man who would stand out prominently in any country and any company. He has neglected large personal interests to work for his country, is keen, extremely human, and has a rare personal magnetism.

Adnan Bey, vice president of Parliament and practically head of that boly, as Mustapha Kemal Pasha only takes the active presidency on special occasions, is exceptionally well fitted for such a position. His quiet, even temper harmonizes the different elements of Parliament and, if one can say it about a man in a complimentary way, he has a lovable character. Although in poor health, he sticks to his post where an ordinary man, less patriotic, would leave for a more healthful climate, as he can afford to do. His wife is Halide Hanoum, a graduate of the American College in Constantinople, and the leading woman in Turkey. Between them they have a marked influence for good in their country.

And so I could go down the list. There is not a weak link in the chain. They work together harmoniously and patriotically with two cardinal aims—first, that Turks shall be ruled by the Turks, and second, that their country shall prosper by every modern and economical means obtainable. The first they have practically accomplished against the greatest odds imaginable, and the second they will accomplish in just as decisive a manner.

It is remarkable that Turkey, of all the nations on both sides of the struggle that were down to the bitter end of their resources during the Great War and as a result of it, was the only one to withstand the temptation to issue unsecured paper money. The Nationalists had the power and every excuse for doing so, more than any other country, due to their dire need of money, facing an invading nation backed by all the power of England. They did not issue one pound in Anatolia and the finances of the country are just as they were when the armistice was signed. Economists view this situation with wonder and admiration, as being almost unparalleled.

Two weeks after our arrival Mustapha Kemal Pasha returned to the capital for the first time since Greek disastrous defeat. He alone had promised the ejection of the enemy. Many in Parliament were skeptical and only hoped that they would be driven back to Smyrna. By his personality and perfect faith that right would win, he carried the weaker characters with him.

Three temporary triumphal arches were erected over the road from the station to the Parliament building. An automobile was ready to carry him the

three-quarters of a mile he had to travel, but, refusing the conveyance, he walked up the road surrounded by the cabinet and Parliament's reception committee and followed by a mob of delirious admirers.

I stood on the edge of the Parliament grounds and watched the slow-moving mass coming from the station with Mustapha Kemal, hardly discernible from the rest, saluting the enthusiastic crowds that lined both sides of the road.

As they slowly approached I tried to picture what his thoughts must be. The recent victory was due to his inspiration, and he was returning after fulfilling his promises. Would he, as history has recorded in the case of most of the great conquerors, with a trained army back of him, take unto himself the powers of a dictator or let Turkey retain a constitutional government? I answered my own question subsequently.

Two days later Kemal Pasha made his report to the Parliament personally. I was fortunate in obtaining a front seat in the gallery. For the first time I saw the Great National Assembly of Turkey. The assembly room is so relatively small that the deputies must crowd three on a seat designated to accommodate two, in order to permit the attendance of all.

Regular parliamentary business was carried on under the chairmanship of Adnan Bey. During the proceedings Mustapha Kemal Pasha came in quietly and squeezed into a seat with two other deputies in the rear. Routine business having been finished, Kemal Pasha's report was announced. Everyone stood as he made his way through the narrow aisle to the speaker's platform, below and in front of the chairman's desk, perched 6 or 8 feet above the floor level.

Unfortunately I could not understand Turkish and only scraps here and there were translated to me. My time, therefore, was spent in studying the man himself. Although a marshal, and the ranking officer in Turkey, he wears the ordinary calpack used throughout Turkey, although many of his subordinates have quite elaborate head coverings. His uniform is the simplest imaginable, and the only insignia of any kind is a piece of maroon velvet, 2 inches square, sewed on the two corners of his collar and surrounded by a narrow gold band with a small star in the center. In appearance he is tall, probably 6 feet, well proportioned, lithe, and active. He is only 37 and from the platform he looked younger. His hair is light as also his closely trimmed mustache. Every line of his face denoted strength, and, when animated, his eyes flash fire. His hands are almost as delicately chiseled as those of a woman and he uses them with exceptional grace. The Turk in his gestures has the forceful and expressive means between the calisthenic motions of the Latin races and the utter disuse of hands for expression of the average American, and Kemal Pasha has the ability to express a shade of meaning by a simple motion of his hand better than anyone I have ever seen.

He started his speech by thanking Parliament for its support of the army and himself. He had promised that the Greeks would be forced out of Anatolia and this had been accomplished. He regretted the blood that had been shed, and to avoid it he had used every means known to diplomacy to stop the war, but all his efforts had been misconstrued by the enemy as signs of weakness. He gave the whole credit for the plan of campaign to his chief of staff, Feize Pasha, and his praise for the army and its officers was unstinted. With great emotion he described the spirit that animated the officers and men by citing the case of his devoted friend Col. Rechad Bey. It seems that Rechad Bey was assigned to take a certain hill, in the action against the Greeks, and at the time this was scheduled to be accomplished, Mustapha Kemal called him on the telephone to learn of his progress. He replied that the hill had not been taken as he had not received the expected support of the artillery, but

that he would take it within half an hour. At the end of that time Kemal Pasha called up and a note, written a few minutes before by Rechad Bey, was read to him. The note stated that he had been unable to keep his promise by taking the hill in half an hour he considered it necessary to kill himself. Rechad Bey had shot himself immediately after signing the note. The Pasha then described in detail the plan and progress of the campaign, referring constantly to maps in front of him.

All this was enunciated in a quiet, clear, though penetrating, voice. Toward the end, as he suggested plans and hopes for the future, his true oratorical powers became evident and the personality that had carried him up to being one of the leading characters of the present day was inspiring, even to those of us who could not understand the words he uttered. At the close, and at his suggestion, everyone rose and, in unison, a solemn prayer for the dead was raised to Allah.

I left Parliament assured that, at last, Turkey had developed a leader in every exalted sense of the word, and its constitution was as safe in his hands as ours was in those of Lincoln.

TURKEY.

REFUGEES FROM VARIOUS PARTS OF ANATOLIA.

20 December, 1922.

The information contained in this dispatch was collected by the various destroyers of the Naval Detachment in Turkish Waters.

1. Total evacuation from Smyrna area (ports from Aivali to Alaya) from September 14 to October 20, 262,587; destination Greek mainland and islands. This does not include those who left Smyrna during Greek retreat before entry of Turks, perhaps 20,000; only minor evacuations from this area since October 20, perhaps 2,000. From Brousa area 70,000 were evacuated to Rodosto thence to Greece.

2. (*a*) Entire non-Moslem population of eastern Thrace evacuated by land to western Thrace and Bulgaria and from Marmora ports to Greek mainland, amounting approximately to 280,000 besides the Brousa refugees referred to above.

(*b*) Department from Constantinople of Greeks and Armenians who can pay passage is constant, but there has been nothing in the nature of an evacuation as yet. Estimate of departures to date 50,000.

3. Refugees awaiting transportation at Anatolian ports according to latest reports: At Trebizond, 3000; at Samsoum 8,000 with report that arrivals of last few days have been at the rate of 500 daily; at Mersina 6,000 with daily arrivals of 1,000; at Aleppo 35,000 coming from Harpout region.

About 75,000 Greek prisoners of war including detained Greek males are destitute in Asia Minor. Impossible to say yet what percentage of 1,300,000 Christians now in Anatolia will become refugees and destitute as result of present exodus. Christians already evacuated from devastated war area, where considerable suffering and destitution exists among approximately 200,000 Moslems.

Some of these figures are no more than rough estimates.

TURKEY.

RELATIONS WITH SOVIET GOVERNMENT.

7 December, 1922.

It is stated that the relations between the Government of Angora and the Soviet Government have been very strained lately.

The growing nervousness of the Soviet Government is very apparent in its notes and official reports. The climax was reached in a very energetic note to the Government of Angora, in which Moscow requested information regarding the report recently received there to the effect that the Government of Angora had recently accorded railroad and other concessions to a group of American financiers.

In this very explicit note the Moscow Government reminded the Government of Angora that these concessions affected public interests and that, as a matter of fact, no concession could be accorded to strangers without consulting the Soviet Government, according to the terms of Annex 2 of the Russian-Turkish treaty.

An exceedingly violent discussion took place in the National Assembly as the result of this note, and it was the opinion of most of the deputies that the Government of Moscow exceeded its privileges and that the note in question represented an interference in the interior affairs of Angora.

The brother of Kemal Pasha, Yousouf Pasha, defended the Soviet point of view, and as a result was obliged to tender his resignation. The Soviet Government, in another note, gave expression to the suspicion that the Government of Angora sympathized with the action of Enver Pasha in Georgia, an action directed against the Soviets. Public opinion in Asia Minor and Constantinople is very much aroused over the concentration of Red troops in the environs of Kars, and such concentration is regarded as an expression of dissatisfaction on the part of the Soviets against the Republic of Angora and, at the same time, is considered as a menace against the sovereignty of Asiatic Turkey.

TURKEY.

TURKISH OPINION REGARDING POSSIBLE RUSSIAN ATTACK.

15 December, 1922.

It has been learned from a very reliable Russian source that Kiasin Kara Bekir, the commander of the Turkish troops assembled on the Caucasian front, opposing the Bolsheviks, has stated in the Grand National Assembly in Angora that if the Bolshevik troops advance on him he will be unable to oppose them.

The commander in chief of the southern Caucasian army is known to be Remizov, and his chief of staff is Vielov.

NEAR EAST.

SUMMARY OF MILITARY SITUATION.

30 December, 1922.

The reported hasty return of portions of the British Fleet from Malta indicates the possibility of a crisis in the military situation in the Near East.

Press reports state that the Greeks are concentrating 30,000 troops at Demir Hissar, just south of the Serbian-Macedonian border. Along the Maritza River, which forms the boundary between western Thrace and eastern Thrace, the Greeks have an army corps consisting of 18,000 men and at Gumuldjina there is a supporting corps of 25,000 men. In addition there are various artillery and cavalry units, bringing the total Greek forces in western Thrace up to 45,700.

There are 7 battalions of Allied troops, about 4,500 men, stationed at various points on the western bank of the Maritza River, and in eastern Thrace itself the only military forces, so far as known, are 12,000 men of the Turkish Gendarmerie. The remainder of the Allied forces is concentrated in and around Constantinople and on both sides of the Dardanelles. The forces at the latter place consist of about 9,000 British, while around Constantinople are 7,000 British, 1,600 French, and 200 Italians. The Allied air force consists of about 80 machines, while the naval landing forces available total nearly 3,000 at Constantinople and an equal number at the Dardanelles.

The only Turkish armed forces on the European side of the Dardanelles and the Bosphorus consist of the 12,000 gendarmes (all probably well trained and equipped) in eastern Thrace. In western Anatolia the Turkish forces are distributed as follows; the figures given are combat strength, which is about 60 per cent of the ratio strength:

Ismid Peninsula	15,000
Between Ismid and Chanak	14,000
Chanak area	11,000
Smyrna area	20,000
Total (about)	60,000

The concentration of the Greek forces at Demir Hissar, mentioned above, may have some connection with the reported concentration of a number of Serbian corps just across the frontier, either as a precaution against any Serbian attempt to seize Macedonia and an outlet to the sea at Saloniki, or to act in conjunction with the Serbs in resistance to any Turkish attempt to seize western Thrace.

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OFFICE OF NAVAL INTELLIGENCE.
NAVY DEPARTMENT.
Washington, D. C.

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1 MARCH, 1923.

DISTRIBUTION:

In general: Bureaus of the Navy Department; all force commanders; all commanding officers of capital ships, the larger patrols, destroyers, and submarines.

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MONTHLY INFORMATION BULLETIN.

NUMBER 3—1923—1 MARCH, 1923.

FOR CONVENIENCE IN ROUTING.

Officer.	Initials.	Date received.	Date forwarded.
Captain			
Executive Officer			
First Lieutenant			
Navigating Officer			
Gunnery Officer			
Communication Officer			
Engineer Officer			
Medical Officer			
Supply Officer			
First Division Officer			
Second Division Officer			
Third Division Officer			
Fourth Division Officer			
Fifth Division Officer			
Marine Officer			

The material for the Bulletin is largely derived from service sources, and its interest and value are correspondingly dependent upon the number and character of the reports received by the Office of Naval Intelligence from our own officers. In this connection the observations of officers afloat are of great value, particularly if the reports rendered are drawn up in accordance with existing intelligence instructions.

A Specimen Harbor Chart is being issued by the Office of Naval Intelligence, to be used as a model in making reports on foreign ports. The information desired is all of great military value and is vital to the success of an operation.

While political and economic information is undoubtedly of great value, the collection of military information should come first in the intelligence work of cruising ships. This chart will be used in connection with the Title Sheet now issued.

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GREAT BRITAIN.

HANDLEY-PAGE BOMBING PLANE.

8 January, 1923.

A new nose for the fuselage of the Handley-Page plane has been designed embodying novel features.

Dual control has been provided and either pilot can readily leave his control to take up other duties. The rear pilot has additional duties as navigator and bomber. When bombing, he takes station in the sighting compartment. He is then provided with a sling band in which he rests his chest, part of his weight resting with his legs and abdomen on the deck. His head and arms are free to move as required to set and align the sights and to release the bombs. He has an instrument board in front of him, telling him the altitude and speed, and is provided with a handwheel on the face of the instrument board, by which he can correct or steady the course by a connection to the rudder bar. He has an excellent range ahead, below and laterally. Cowling features to prevent the disturbance of wind blasts are yet to be determined. The bomb levers are in a handy position at the right side of the sighting trap.

The wind shield of the second cockpit is split, apparently utilizing the head of the forward pilot in conjunction with same.

The chart room is just over the floor of the bomb compartment and is provided with a chart board of liberal dimensions and a compass centrally located in the fuselage. The lower portion of the fuselage is cut away so as to shield bombs within the contour of the fuselage, and it is intended to stow the bombs with their axes horizontal.

This nose is intended to be used with the W–8 type of Handley-Page plane with two Lion engines.

GREAT BRITAIN.

HANDLEY-PAGE TORPEDO PLANE.

8 January, 1923.

On a recent visit to the Handley-Page plant the slotted-wing torpedo and bombing plane was examined and the arrangement of the stove for heating the torpedo was noted.

Both engine exhaust mufflers are carried down under the wing and alongside the torpedo. A portion of the muffler is given a box-shaped form, so that one face conforms closely to the contour of the torpedo, and this face is provided with shutters, by means of which the exhaust blast can be directed on to the face of the air flask of the torpedo to the required degree. When these shutters are closed, the exhaust passes on to the tail of the mufflers in the usual manner. The temperature of the air flask is indicated by means of a thermal couple, indications of which are available at a suitable point. There was no indication of a special means for keeping the oil warm other than that involved in the descriptive arrangement.

While it may mean nothing, the form of the tail of the dummy torpedoes may have some significance. Attention is invited to the forwardly tapering frustum of a cone beginning at the rear margin of the tail vanes. This frustum is a cast-iron addition to the tail of the dummy torpedo. It is suggested that the frustum may indicate a form of stabilizer for torpedoes to be dropped from aircraft.

GREAT BRITAIN.

MISCELLANEOUS ORDNANCE NOTES.

January, 1923.

SEMIAUTOMATIC ANTIAIRCRAFT GUNS.

A very efficient 4″.7 semiautomatic antiaircraft gun with 90° elevation was observed. The rate of fire of this gun at the highest angles, from 80° to 90°, is 10 rounds per minute. When firing at lower angles, it varies between 15 and 20 rounds per minute. The total weight of the projectile and charge, which is prepared as fixed ammunition, is approximately 80 pounds. One officer stated that he thought the projectile was 67 pounds in weight. Later, another officer stated that he believed the projectile was 50 pounds and the charge 30 pounds. They both agreed that the total weight of projectile and charge was 80 pounds.

This is the largest semiautomatic antiaircraft gun that the British have produced. In reply to an inquiry as to whether these guns would be placed upon the two new battleships, informant said that they had no information whatsoever concerning the designs of the two new battleships. Practically similar comments were made with reference to everything touching upon the new ships, except the thickness of turret roofs and the caliber of the main battery guns for these ships.

I did not see any 6-inch antiaircraft guns and it was stated that none had been tested. It will be recalled that information concerning the torpedo defense battery of the two new battleships is to the effect that it will consist of 6-inch 50-caliber guns mounted in pairs in turrets and capable of very high angle elevation for antiaircraft work.

MAJOR-CALIBER GUNS.

It was stated that the subject of gun construction of major-caliber guns is "somewhat in the air" at the present time. It appears that the naval ordnance people are having the greatest controversy they have ever had with reference to the general principle of manufacture of major-caliber guns; that is, wire-wound guns vs. built-up guns.

From what was gleaned from discussion of the subject, the Admiralty apparently have reached the decision that their 16-inch guns to be installed on the two new battleships must be 50 calibers in length in order to avoid placing them at a disadvantage as compared with other navies. They have accordingly designed 16-inch, 50-caliber guns, which were stated to be of about 130 tons weight and probably would fire a projectile about 2,300 to 2,400 pounds weight. It was stated definitely that the Admiralty have not built a 16-inch, 50-caliber gun, even for experimental purposes, but that the designs have been approved. They are at present lining down two 18-inch guns, which were used in monitors during the war, to give them a 16-inch, 50-caliber bore, with which they are going to conduct experimental firings before building any 16-inch, 50-caliber guns. The opinion was stated that the built-up method of manufacturing heavy guns of long caliber was superior to the wire-wound method, and that the tendency of the Admiralty's policy at present was toward the built-up method. Informant stated that in order to get 16-inch, 50-caliber guns, without very excessive droop, he thought they would be forced to adopt the built-up method of manufacture. Another factor which was stated to carry considerable weight with the Admiralty in contemplating the adoption of built-up major-caliber guns was the recent extensive investigation and consideration of the effect of producing initial "stresses" or "tensions" in guns, together with their investigation of high-tensile steel in gun manufacture.

It was stated that the longest 15-inch guns which have been produced by the Admiralty are 15-inch, 45-caliber guns. My informant stated that no work is being done at the present time, so far as he knew, with reference to the development of a long-range gun similar to that used by the Germans in firing into Paris. (That is, anything like a 90-mile gun.) He stated, however, that the ordnance com-

mittee had recently inquired as to the feasibility of laying out a 54,000-yard range from Grain Island, which indicated that they had under consideration experimental firings up to those ranges, and intimated that they must be considering that as a maximum range which could be produced with the design of gun they were considering for the two new battleships.. He said they doubted the value of indirect fire in naval battles, employing airplanes for spotting, but that they wished to provide for the possibility in designing their new ships.

It was stated that the only "long"-range gun development which had been attempted since the armistice was to line down to 8″.2 guns two major-caliber guns which I think he said were 18-inch ex-monitor guns. Serious experimentation was attempted with only one of them, which burst during experimental firing. The other was never completed. He said he considered the attempt a miserable failure.

RIFLING.

Practically all British naval guns are now given uniform twist rifling. For major-caliber guns it was stated to be about 1 in 30. There is one recent design of 4″.7 gun which was given increased twist rifling.

FUSES.

There were numerous evidences of very extensive experimental fuse work of all kinds. My informant volunteered the information that the standard service base fuse for major-caliber A. P. projectiles in use by the service is of the "pellet" type, which he identified as No. 16. The delay feature is obtained by a slow-burning specially covered pellet. This information, if correct, is interesting. On the contrary, others have indicated that the Admiralty have a more satisfactory delayed-action fuse. In reply to my inquiry, it was stated they had never had any ex-German delayed-action fuse here, and that to the best of his knowledge the Admiralty had never had one. On the other hand, during a recent visit to Sheffield, I was informed that they had had from the Admiralty detailed drawings of the German delayed-action fuse, which had been used in the Battle of Jutland.

My informant stated that the Admiralty delayed-action fuses gave good performance when fired at heavy plates at high velocities, but that when they shifted to fire at a 1-inch plate with the same fuse, the performance was not good. As an indication of their performance at heavy plates, he said that a very large percentage of them burst between 20 and 40 feet behind the plate, but that every

now and then they would get one which would go 200 feet before bursting. He did not consider the fuse as satisfactory for firing at both thick and thin plates.

They are experimenting with various types of time fuses for anti-aircraft purposes. It was noted that the army has recently begun extensive experimental firing in laying smoke barrages.

PROJECTILES.

The standard 15-inch Hadfield A. P. projectile appears to be considered very satisfactory. Only one rotating band is fitted, the rear of it being placed 2 inches from the base of the projectile. The band is about 4½ to 5 inches in width. There appeared to be no new features in this driving band.

Two designs of caps are used, one having been developed by Hadfields, which is almost exactly the same as that fitted to our 16-inch projectiles, and the other a sort of "knob"-shaped design, developed and patented by Firth. It was stated at the proving ground that they had not been able to discover any advantage between the two. The designers of the knob type claim as its chief advantage that it is superior at plunging fire attack against horizontal armor.

Many experimental 6-inch projectiles were observed—A. P., H. E., and common. All were fitted with single rotating bands, the design of bands being varied. The most interesting type seen were fitted with a conical cap about two-thirds the normal length of the projectile. It was stated that these projectiles gave a considerable increase in range and were exceptionally steady in flight.

SHELL FILLER.

In response to an inquiry as to the kind of shell filler now used for major caliber A. P. shells, it was stated that "shellite" is used. More detailed information was not available.

CONCLUSION.

In conclusion, that which struck me most forcibly was the extensive investigation of the velocity and flight of projectiles, and the vast amount of experimental fuse work. It may be concluded that the Admiralty have not a satisfactory delayed-action fuse for A. P. projectiles and that they experience serious difficulty with the "wobbling" of major-caliber projectiles.

GREAT BRITAIN.

NEW BATTLESHIPS.

25 January, 1923.

The Secretary of the Admiralty has announced that the two new battleships laid down in December last will be named H. M. S. *Nelson* (builders, Sir W. G. Armstrong, Whitworth & Co., Walker-on-Tyne) and H. M. S. *Rodney* (builders, Messrs. Cammell, Laird & Co. (Ltd.), Birkenhead).

Sheffield's share of the work on the two new battleships is proceeding apace. The rolling of the armor plate was begun some days ago, and yesterday the casting of the ingots for the 16-inch guns was started at Vickers (Ltd.).

The type greatly resemble the American guns of the same caliber, and they weigh 130 tons each. They are the largest long-range naval guns yet introduced in the British Navy, the previous record being the 15-inch guns with which the *Hood* was equipped during the war.

Eighteen-inch guns were made, but they were short range, for mounting on monitors.

The armoring will be practically the same, with special heavy armor protection for the decks, a precaution based on the experience gained at Jutland. They will be equipped with nine 16-inch guns each, together with a number of 6-inch and 4-inch 7's.

GREAT BRITAIN.

RETIREMENTS OF COMMISSIONED PERSONNEL OF NAVY.

January, 1923.

There is summarized below recent information regarding the weekly commissioned strength of the British Navy. The detailed figures of admissions, deaths, dismissals, etc., are not available.

Date.	Active list.	Retired during previous week.
18 Dec., 1922	8,605	12
24 Dec., 1922	8,593	12
1 Jan., 1923	8,590	3
8 Jan., 1923	8,539	51
15 Jan., 1923	8,516	23

GREAT BRITAIN.

SHOEBURYNESS PROVING GROUND.

January, 1923.

Shoeburyness, which is situated on the Thames Estuary, is the principal British proving ground for both the army and the navy. The only strictly naval personnel there consists of two commissioned officers, who supervise all naval work which is performed by the army and civilian personnel. One of these officers has been in charge of the naval work at Shoeburyness for over four years, and the Admiralty have just decided to continue him permanently on that assignment. An arrangement has been made whereby he gets the pay and allowances of a captain of the Royal Navy, but he continues in his present rank of lieutenant commander and in future will not be eligible for promotion.

During the war, the proof and other firings amounted to 70,000 rounds per month, and reached their height during one month at 90,000. Under normal conditions at Shoeburyness firing over water for recovery of projectiles can be undertaken only about 50 per cent of the days during the month. Fog, rough weather, and unfavorable tide conditions are the principal causes of interference, which can not be overcome. There is another serious cause of daily interference with the firings, namely, traffic along a road on the beach from the mainland to Foulness Island. This road is the only means of communication with Foulness Island, and firing along this range frequently has to be stopped on account of people passing to and fro. In order to obviate this delay, the Admiralty are building a bridge across the two creeks separating Foulness Island from the mainland. That area over which the firing ranges extend will then be declared a prohibited zone for all purposes other than firings. This will materially speed up the work at the proving ground.

The principal new work in hand is the construction of a large butt for plate testing, experimentation, and development of the Heape-Grylls rapid cinema machine for photographing projectiles in flight, and especially during impact and penetration, and perfecting instruments for measuring the velocity of projectiles. It was also stated that much experimental work was being undertaken.

RANGES.

When proving-ground firing first began at Shoeburyness, the firing was across the mouth of the Thames toward Black-tail Spit. As a maximum range of only 6,000 yards could be obtained, and as ranges increased, it was necessary to fire in a more northerly di-

rection, and gradually they have worked around until the ranges are now practically all laid out parallel and close to the beach, on the Shoeburyness side. From Shoeburyness ranges up to 24,000 yards can be obtained for recovery of projectiles. During the latter part of the war long-range firing necessitated establishing a battery for proof work on Grain Island. Firing for recovery of projectile can be conducted from Grain Island up to 34,000 yards on the Maplin and Foulness Sands. The Admiralty are now preparing to lay out another range from the Grain Island battery up to 54,000 yards, along the Maplin, Foulness, and Gun Fleet Sands, the other end of the range being along the Gun Fleet Sands about opposite Clacton-on-Sea. Additional observation stations probably will be established if sufficient use of this range justifies.

Along each of these ranges, a beacon is placed at every 1,000-yard interval, and a peg is placed at every 50 yards. Each of these range lines is accurately laid out by theodolite. The firing is usually conducted in groups of about 10 shots. Before firing correction is made for drift in order that the projectiles will fall as near as possible to the pegged range line.

The new range of 54,000 yards is to be laid out at the request of the ordnance committee.

At Shoeburyness, the towers which hold the velocity screens can be used for angles of elevation up to 11°. On Grain Island, the velocity towers are higher, about 220 feet, and can be used for angles of elevation up to 20°.

RANGE WORK.

The triangulation devices are of the "window" type. There are six observation stations on shore along the range, 2,000 yards apart. They are placed in a straight line. A seventh observation station has been placed on the opposite side of the range in the Maplin Lighthouse.

This window system is used for observing all firings involving measuring horizontal angles and also those involving vertical angles, except very high vertical angles, in which case the "mirror" type is employed. The officer in charge of the naval work stated that the window-type observations gave them accuracy to within 1 yard, and that they preferred it to any other system they had ever employed. It was the only system in use at the time the proving ground was visited.

A "ready reckoner" diagram is employed in the observation plotting room for the selection of the observation stations to be used, and for the prediction of the approximate bearing of the fall of the projectile from each of the observation stations selected for any intended range at which a shot, or group of shots, will be fired.

BUTTS.

Detailed description of the butts is unnecessary. In general, they are of a more permanent nature than ours. They are constructed of cement and old armor plates.

One large new butt for plate tests is nearing completion. It is larger and more solidly constructed than any of the other butts at Shoeburyness. It was stated to have cost about £10,000. It is located at a considerable distance from any of the other butts, following the general policy in the layout of the Shoeburyness Proving Ground of separating by considerable distances the various kinds of work.

The angle butts have the plate inclined in the vertical plane, with the top sloping back and away from the gun, as has been their practice for some years. It was stated that all tests of projectiles and plate for standard performance are conducted with the plate inclined at 20°. Experimental work is conducted at increased inclination of the plate.

In response to an inquiry concerning the standard performance, it was stated that standard performance for modern 15-inch A. P. service projectiles was to penetrate caliber plate at 1,700 foot-seconds in condition to burst; and that standard performance for plates was to deny penetration of the same caliber projectile at 1,450 foot-seconds. (It was stated that these figures might not be the exact figures given in the specifications, but that they were the ones that obtained as an average in practical results at the proving ground. They are repeated herein for such value as may be placed upon them by the reader.)

Firings are still being conducted against the Baden armor plates. One 15-inch Baden plate was noted which had been fired at by a British standard 15-inch A. P. projectile, at 20° impact, striking velocity 1,500 foot-seconds. The projectile penetrated the plate and took out a circular section 6 feet in diameter on the back side of the plate. Apparently this was very exceptional, however, as it was the subject of some comment and was stated to have been the largest section they had ever seen taken out of the back of a plate under such circumstances.

There are special butts for testing turret roofs. During discussion concerning the proper thickness for turret roofs, informant stated that he had not seen and did not know what thickness of turret roof would be used in the designs for the two new battleships. From work which he had been conducting it was his personal opinion that it would probably be 7 inches.

NEW MAJOR-CALIBER FIRING BATTERY.

A new major-caliber firing battery mounting one 18-inch gun and one 15-inch railway mount has been installed. Both of these mounts are fitted with adapters for mounting guns of smaller caliber. A railway track is run down between these two mounts for the special purpose of proving railway mounts firing from the rails without facilities for traverse. A special 300-ton crane has been installed immediately behind this battery for handling heavy guns.

INSTRUMENTS FOR MEASURING VELOCITY OF PROJECTILES.

Two systems for measuring the velocity of projectiles are employed at Shoeburyness, Le Boulenger chronographs and solenoids with galvanometers. Broadly speaking, the general principle of the latter system is that when the projectile passes through the coil and thus causes a small variation in current, this is recorded by a galvanometer. In these galvanometers there are two very large coils, and in the strong magnetic field between them there is a series of thin parallel wires. These wires vibrate in the field when a current flows through them. A strong light from a special lantern is thrown on them through lenses magnifying their movements. After magnification, the distance between them is reduced by a special astigmatizing lens. The images are recorded on sensitized photographic paper, which runs at a speed of about 2 meters per second. Each group of solenoid coils is connected in series with the galvanometer. Each group of coils now used is 20 feet in diameter (having been increased from about 4 feet). There has recently been developed an instrument for measuring this record in increments as small as 100 subdivisions between two consecutive registrations of solenoids, thus obtaining a record corresponding to a time interval of $\frac{1}{100000}$ of a second. The instrument is a parallelogram arrangement, and is simple and very useful. The fact that they have three of them in constant use will give some idea of the amount of work being conducted in connection with the investigation of the velocity of projectiles.

There are two special ballistic ranges fitted with solenoids. The first one built, which is the smaller of the two, consists of 6 towers containing solenoids, 50 yards apart, the range being 300 yards. Their investigation of the velocity of projectiles during the first 300 yards of flight convinced them that there was so much to be learned that they have just completed the construction of the larger and much more accurate 1,000-yard ballistic range with 20 specially constructed steel towers, each containing circular solenoids, 20 feet in diameter. The utmost care and accuracy was observed in laying

out this range, which was done by special ordnance survey engineers, who claim it is as accurate as can possibly be constructed. The Admiralty have planned extensive firings for ballistic investigations on this range. It was stated that although these ranges were constructed primarily for the purpose of investigating the velocity of the flight of projectiles, their experimental firings in this connection had brought out the necessity for investigating the stability of flight. At the proving ground it was stated that they experienced much difficulty with "wobbling" of projectiles. This was especially interesting, as Sir Robert Hadfield has upon several occasions complained of the "wobbling" of British major-caliber projectiles. He stated that our major-caliber projectiles are much steadier in flight than the British. At the proving ground it was stated that firings of 15-inch A. P. projectiles in this connection gave an average diameter of 15″.7, 400 feet from the muzzle. An informant turned to his record book and then read off numerous examples, some running as high as 16 inches. They stated that of course they did not know how much this increased at long ranges.

Investigation of the flight of projectiles by the Admiralty has resulted in the development of an experimental machine known as the Heape-Grylls rapid cinema machine, designed and developed primarily for the purpose of photographing projectiles in flight. The progress made with this machine is sufficiently encouraging to justify the expectation of early success in photographing projectiles in flight. It is hoped also that eventually it can be rendered possible to photograph the projectile during impact and penetration.

The apparatus is mounted upon three small railway freight cars of ordinary size. One car carries the rapid cinema machine, in a second car is placed the electrical equipment, and in the third car a gasoline-driven engine for motor generator and fuel tanks. The rapid cinema machine consists of a steel wheel in the shape of a drum, 6 feet in diameter, the periphery of which is about 6 to 8 inches in width. The surface of the periphery is designed to take two cinema films about $1\frac{1}{2}$ inches wide. These films are placed on the periphery of the drum and wound around the drum, and have their ends just meeting and pasted together with a special preparation. The two recording films are separated by about 2 inches. A generator driven by a gasoline engine supplies current to a 15-kilowatt motor, which rotates the 6-foot steel drum at speeds up to 1,000 revolutions per minute. Special electrical revolution counters are fitted. During experiments the centrifugal force due to the high speed of rotation tore the film off the wheel. In order to keep the recording film on the drum, special arrangements are necessary. The problem of keeping the recording film on the periphery of the wheel

was solved as follows: Immediately under each recording film are two circumferential grooves. At intervals of about 2 inches, small steel radial tubes about three-sixteenths of an inch in diameter are led from these grooves in the periphery to the center of the drum and are there connected to an air pump driven by a small electric motor. This air pump creates a vacuum of 26 inches of mercury, thus holding the two recording films on the drum. The drum is mounted in a special bearing under oil pressure.

On each side of the drum there is a flat ratchet wheel about 2½ feet in diameter for driving a small pinion and shaft. Each of these shafts drives, through suitable gearing, a steel wheel containing 40 lenses. These wheels are placed at right angles to the 6-foot steel drum, and the two wheels containing the lenses rotate in opposite directions from each other. There is a steel shutter containing two apertures, one for each recording film. This steel shutter is suspended and is dropped into place at exactly the correct instant by the passage of the projectile through three screens, which drop two rods (similar to those used with chronographs) measured distances, thus giving the time of exposure. These two wheels containing the lenses must revolve at exactly the same speed as the recording films on the 6-foot steel drum.

The rapid cinema machine is mounted behind a 6-inch armor plate, with an aperture in front of the lens. A mirror is placed at an angle of 45° with the plate in order to reflect the object to be recorded into the lens of the camera.

This high-speed camera is capable of taking pictures at the rate of 5,000 exposures per second. In order that this may be possible, an enormously high-powered light is required. To produce this intense light, 36 pounds of a special illuminating preparation is detonated by means of firing through screens. It was stated that this preparation consisted principally of magnesium and aluminum dust, and the detonation of 36 pounds gives a light 20 times the power of the sun. Naturally a very intense heat is developed, against which special precautions are necessary. There was much evidence of everything in the vicinity of the machine having been scorched. The duration of this flash of light is one-tenth of a second.

As the length of the recording film on the 6-foot drum is limited, the number of pictures taken is limited. Approximately, there are 16 pictures to a foot, and as the length of the recording film on the drum is about 20 feet the number of pictures taken on each recording film is approximately 320. Special arrangements exist for "staggering" the two apertures in the shutter in such manner that the exposures on one recording film are made just after those on the other. In this manner approximately double the number, or 640,

exposures can be taken. Arrangements exist for taking an exposure through both apertures simultaneously with the two recording films, thus producing a stereoscopic effect.

The two principal disadvantages of this machine are: (1) The distortion of straight lines in the picture due to the slightly curved movement of each lens taking an exposure while passing the aperture. As these lenses are mounted on the circumference of each of the two wheels, their movement while in front of the aperture is slightly curved. When this is observed through a magnifying lens, of course, the straight lines of the picture are distorted by that amount. It is suggested as probably feasible that the introduction of projecting lenses of equal but opposite curvature would overcome this defect in the design of the instrument. This point of the design is severely criticized by my informant, who emphasized this as one point which the designer should have foreseen. (2) The other principal disadvantage is that in taking pictures of the impact of a projectile on a plate, the intense light probably will result in such a glare that nothing else will be observable. At least that is the opinion at present of the naval officers at Shoeburyness. No pictures of impact or penetration have been attempted up to the present time. All the experimentation and development work has been in connection with observation of projectiles in flight and with the perfection of arrangements for controlling the speed of the machine to produce the desired speed of exposures for the velocity of the projectile. Considerable progress has been made in this direction, and success is confidently expected. It was stated that less difficulty was anticipated in connection with obtaining photographs of the projectile as it emerges from the back side of the plate.

Great care is necessary in handling the illuminating preparation. They have had to work up the amount of this preparation from 12 pounds to 36 pounds. Recently a charge was prematurely detonated, which came near wrecking the whole machine. Consequently the Admiralty have issued instructions suspending its operation until suitable precautions can be developed for handling this illuminating preparation.

Informant stated that in his opinion the Admiralty made a great mistake, from an economical point of view, in not insisting upon the inventor producing a commercial product which was perfected and capable of immediate operation. However, the Admiralty were so anxious to pursue this line of investigation that they agreed to finance the inventor. My informant estimated that up to the present time the Admiralty must have spent £10,000 upon the apparatus. It is to be considered in the experimental stage, and offers great promise of successful photographing of projectiles in flight. Further than that, it is difficult to predict to what extent it can be perfected, that is,

in connection with impact and penetration of plates. The Admiralty consider that the importance of the subject, however, more than justifies the expenditures in connection therewith.

JAPAN.

ARMOR-PIERCING PROJECTILES.

December, 1922.

The only shells ordered in England in recent years for the Japanese Navy were "several hundred" 14-inch, 20°, round-nose, armor-piercing projectiles. Some of these shells have been received in Japan. (This may refer to the test shells only.)

There is reason to believe that these shells do not contain all the improved features of the Hadfield A. P. shells.

The 16-inch projectiles for the Japanese Navy were all made in Japan at Kure Naval Arsenal. They are not thought to be of a high degree of officiency. It is probable that the Japanese are aware of this, and there is reason to believe that efforts are being made by the Japanese Navy to embody the special features of the Hadfield shell in 14 and 16 inch shells built in Japan. The results of these efforts are not known, but it is very doubtful if they will be entirely successful, at least for some time to come.

Tokyo Naval Arsenal is gradually being transformed into a naval technical research laboratory. An ordnance expert who is held in high esteem in the Japanese Navy has been recently ordered there, and there is reason to believe that he is now particularly charged with the development of a major-caliber A. P. shell to embody superior specifications—in other words, to copy the Hadfield shell.

There is nothing known indicating that the Japanese Navy has any German ordnance experts assisting in the manufacture or development of A. P. shells. As Kure is rather inaccessible and remote from Tokyo, such experts might easily be employed without the knowledge of the fact becoming known.

JAPAN.

ENLISTED PERSONNEL OF NAVY.

December, 1922.

The Japanese Navy Department stated that the naval personnel on 4 December, 1922, was as follows: "Total enlisted personnel, 65,184." This is a reduction of 285 since 13 November, 1922.

The above personnel is distributed as follows:

(*a*) At sea in vessels in active commission	26,188
(*b*) In vessels in commission in reserve	19,500
(*c*) Shore duty	13,496
(*d*) Employed at naval stations in mine corps (This is in addition to (*c*).)	4,000
(*e*) Attached to vessels under construction	2,000
(*f*) Attached to harbor-master's office in naval ports	400

The 400 men doing duty in the harbor-master's offices (*f*) are thought to be men of the naval reserve, as it will be seen they are not in the total of 65,184 as given by the Japanese Navy Department.

It has not been so far definitely determined how the Japanese Navy mans its seagoing tugs, yard tugs, etc., though it has been ascertained that some of them were manned by naval reservists, and it is thought most likely that all of these craft are so manned.

JAPAN.

ILL HEALTH OF ADMIRAL KATO.

December, 1922.

There are ample reasons to believe that Admiral Baron T. Kato, Premier of Japan, is in a serious state of health, despite official denials of this condition.

It is not believed that his grasp of affairs is impaired, but it is quite within the range of possibilities that his physical condition may force his retirement from public life unless his health improves.

Admiral Kato's appreciation of the importance to Japan of America's friendship and cooperation would make his retirement a matter of concern to America.

JAPAN.

MODERNIZING VESSELS TO BE RETAINED UNDER NAVAL TREATY.

5 January, 1923.

It does not appear that any work has been done in the Japanese Navy toward the modernizing of the capital ships to be retained by Japan under section 1 of the naval treaty. On these ships so far there seems to be no additional underwater or deck protection, nor does anything seem to have been done toward increasing the angles of elevation of turret guns.

The Japanese budget for 1923, as approved by the cabinet, authorizes the expenditure for the above purposes during the next

eight years of 50,000,000 yen, of which 2,200,000 yen is to be available in 1923. No information is available as to the details of what is proposed to be done with this appropriation.

According to the Japanese press, the following is the yearly apportionment for improving the present equipment of capital ships of the Japanese Navy, total of which is 50,000,000 yen:

Fiscal year:	Yen.	Fiscal year—Continued.	Yen.
1923	2, 200, 000	1927	6, 400, 000
1924	4, 500, 000	1928	8, 300, 000
1925	4, 500, 000	1929	8, 300, 000
1926	6, 400, 000	1930	9, 400, 000

The work will be commenced first on such ships as the *Fuso*, *Yamashiro*, and *Haruna*, which are comparatively old.

This work will be carried out regardless of the success of the Washington treaty.

JAPAN.

NAVAL UNITS IN CHINESE WATERS.

27 December, 1922.

The Japanese press reports that with the withdrawal of Japanese Army detachments from middle China and Tsingtau the burden of protecting Japanese subjects in China falls entirely on the navy. As a result, these authorities have made some changes in the assignment of districts to be covered by the fleet and naval stations, which are as follows:

CHINA FLEET.

Under the direct supervision of the Minister of Marine: Attend to protection of Japanese subjects in Yangtse River district and to other military matters involving the district. However, as regards the assignment of ships in this command, it bears a close relation to Sasebo station. The present fleet consists of the *Ataka* (at Shanghai), *Tsushima* (Tsingtau), *Fushima* (Ichang), *Sumida* (Changchow), *Toba* (Changking), *Saga* (Kiukiang), and *Uji* (under repairs at Sasebo); but since these are considered insufficient to meet requirements hereafter the *Uji* and *Sumida* will be placed in reserve and the *Hotsu*, *Hira*, *Katata*, and *Seta*, which will be completed next spring, will be added to the fleet, making a total of 9 vessels, and second in number of vessels, the British having 12.

Of the naval officers stationed in China, those at Canton and Hankow will be withdrawn, leaving only those at Pekin and Shanghai.

JAPAN.

NEW AIRCRAFT FOR NAVY.

11 January, 1923.

The specifications for the above are as follows:

"MITSUBISHI" SINGLE-SEATER FIGHTER.

(Experimental machine results.)

Purpose: Single-seater fighter for work with fleet.
Engine: 300 h. p. Hispano Suiza.
Duration: Two and three-fourths hours, full throttle, at 1,000 feet.
Armament: Two Vickers operated by C. C. gear; 500 rounds per gun.
Span: 29 feet.
Gap: 4 feet 11 inches.
Length: 22 feet 7 inches.
Surface: 290 square feet.
Chord: Top plane 6 feet, bottom plane 5 feet.
Total weight (i. e., fully loaded with petrol, ammunition, pilot, etc., as would operate under service conditions): 2,580 pounds.
Wing section: Halbron.
Speed:
1,100—142½ m. p. h.
5,000—142 m. p. h.
10,000—140.5 m. p. h.
15,000—137 m. p. h.
Climb:
5,000 s. h., 3–24.
10,000 s. h., 7–56.
15,000 s. h., 14–18.
Construction:
Normal, i. e., usual wood and wire constructions.
Single bay. Steel interplane struts.
Steel V under carriage.
Top plane mounted on steel center section struts in the normal fashion and not attached directly to fuselage.
Adjustable tail plane.
All controls not balanced and of standard shape and construction.
Radiator: Standard honeycomb radiator at present. Possibly Lamblin radiator later.

"MITSUBISHI" TWO-SEATER RECONNAISSANCE MACHINE.

(Experimental machine results.)

Purpose: Two-seater reconnaissance machine for work with fleet.
Engine: 300 h. p. Hispano Suiza.
Duration: Three and three-fourths hours, full throttle, at 1,000 feet.
Armament: Two Vickers operated by C. C. gear; 500 rounds per gun; for pilot one Lewis gun, and scarf ring for observer.
Span: 39 feet 6 inches.

Gap: 4 feet 8 inches.
Length: 26 feet.
Surface: 405 square feet.
Chord: Top plane 6 feet, bottom plane 5 feet.
Total weight (i. e., fully loaded with petrol, ammunition, pilot, observer, etc., as would be operated under service conditions): 3,250 pounds.
Wing section: Somewhat similar to single seater, and of quite ordinary shape for moderately thin wings.
Speed:
1,000—130.5 m. p. h.
5,000—130.5 m. p. h.
10,000—125 m. p. h.
15,000.
Climb:
5,000 s. h., 4–36.
10,000 s. h., 9–54.
15,000 s. h., 17–3.
Construction:
Normal, i. e., usual wood and wire constructions. Two bays. Steel interplane struts. Steel V undercarriage.
Top plane mounted on steel center section struts in the normal fashion and not attached directly to fuselage.
Adjustable tail plane.
All controls not balanced and of standard shape and construction.
Radiator: Standard honeycomb radiator at present. Possibly Lamblin radiator later.

MITSUBISHI SINGLE SEATER TORPEDO MACHINE (TRIPLANE).

(Experimental machine results.)

Purpose: Torpedo carrier.
Engine: Napier 450.
Duration: Two and one-half hours, full throttle, 1,000 feet.
Armaments: One torpedo of 1,500 pounds (approx. 14-inch). No guns.
Span: 43 feet 6 inches.
Gap: 4 feet 8 inches.
Length: 32 feet.
Surface: 750 square feet.
Chord: 6 feet (all planes).
Total weight (i. e., with torpedo and full petrol): 5,250 pounds (approx.).
Wing section: Somewhat similar to single seater.
Speed:
1,000 feet, 128 m. p. h.
5,000 feet, 128 m. p. h.
10,000 feet, 126 m. p. h.
15,000 feet, 109 m. p. h.
Climb:
5,000 s. h., 5–45.
10,000 s. h., 13–30.
15,000 s. h., 28–0.
Construction: Normal. Steel interplane struts. Undercarriage mounted so that landing stresses taken through first set of interplane struts, then through flying wires to fuselage. Adjustable tail plane. Other controls normal.
Radiator: Standard honeycomb radiator at present. Possibly Lamblin later.

JAPAN.

NEW ARTILLERY MATERIAL.

20 December, 1922.

150-MM. SIEGE GUNS.

Carriage with a metal limber bolster ("sellette"). Are undoubtedly the ordinary 150-mm. guns.

150-MM. HOWITZER.

A 150-mm. howitzer mounted on a single carriage is being tried out. This piece is intended to replace the one now in use which is mounted on two carriages.

The known characteristics are as follows:

Breechblock with a horizontal lock.

Hydropneumatic brake with a variable recoil. The recoil varies according to the elevation and is controlled by a lever which turns in a cup valve.

Split trail and a top carriage ("petit-affut"). This permits of aiming 20° to each side of the axis and a vertical elevation from minus 10° to plus 45°.

300-MM. GUN OR HOWITZER.

Length, 30 or 32 calibers. It is not a siege gun as was at first believed, but a seacoast gun under experiment.

Central pintle carriage, traversing rack 6 meters in diameter, rotating on bearings. Vickers breechblock. This piece will have a range of only 12 km.

Experiments have been carried on in the manufacture of a 400-mm. gun or howitzer of the same length and characteristics as the foregoing gun, but up to the present the results have not been satisfactory.

75-MM. MOUNTAIN GUN.

This piece is in the process of manufacture and is intended to replace the present 75-mm. mountain gun, which is not satisfactory.

This new gun has the following characteristics:

Rotating breechblock of the truncated-cone type with semicircular slotted threads. The rifling is uniform. Initial velocity of projectiles, 330 meters per second; range, 6,000 meters. Glycerine is used in the recoil brake, while the recuperator is actuated by a helical spring. A counterrecoil rod is provided to lessen the shock when returning into battery after firing. Length of recoil, 1.10 meters.

The barrel has a sliding support which varies with the top carriage in elevation and direction. Field of fire, 20° to each side of the axis.

A line of sight, which is not affected by the difference in level of wheels, is obtained by two pieces, one of which turns within the other. This has been obtained as follows: The top carriage (*a*) pivots at (*b*) to the right side of the axle (*c*). The screw (*d*) operated by the horizontal handwheel permits the adjustment of the upper carriage so as to compensate for difference of level of wheels.

The carriage proper has a bent anxle to which are attached a split trail, the arms of which are made of tubular steel. Each of the trail arms is attached to the axle in such a manner that it can be moved in a vertical or horizontal plane. This arrangement permits of firing on very rough ground.

To move the gun assembled, the split trail forms a shaft which is held together by means of the supports of the cannoneers' seats. In addition the split trails are jointed at (*f*) and (*f'*), which permits the shafts being given any desired inclination.

The arrangement of breechblock and the upper carriage permits of fire from minus 9° to plus 45°. However, the variable recoil is not well regulated, for when the gun is fired at elevations greater than 30° it is necessary to dig a trench to permit the recoil of the gun.

To transport the gun on pack saddles, it is divided into six parts—gun barrel; slide; brake; upper carriage and axles; split trails; wheels and gun shield.

The tests with this piece have been considered to be satisfactory.

TRENCH MORTAR.

Experiments are being carried on for the manufacture of a 270-mm. trench mortar having a range of 2,000 meters. The projectile is provided with wings. The barrel has not yet been seen.

The mount is made of two cast-steel tubes, which can be given any desired elevation. The axis of the gun barrel, which enters a groove in the steel tubes, rests on helical springs that take up the recoil and return the gun into battery.

MISCELLANEOUS.

There has been seen from a distance:

Some Renault tanks. However, there is no talk regarding the construction of any Japanese tanks.

Antiaircraft guns mounted on caterpillar tractors.

JAPAN.

REDUCTION IN NAVAL PERSONNEL.

16 December, 1922.

The Japanese Navy Department has made public the following information:

Reduction in number of petty officers and men of Japanese Navy from 1 December, 1921, to 1 December, 1922.

Branch of service.	Yokosuka.	Kure.	Sasebo.	Maizuru.
Executive branch	2,220	1,688	1,073	2,014
Mechanical branch	1,120	1,134	733	1,138
Bandmasters	40			
Carpenter branch	39	51	3	62
Wardmasters	64	45	36	50
Writers	111	107	50	140
	3,594	3,025	1,895	3,404

This gives a total reduction of 11,918 enlisted men and petty officers.

During the year 6,205 additional men severed their connection with the service, due to discharge, death, etc., but were replaced by recruits.

This about completes the proposed reduction in enlisted personnel.

JAPAN.

SUMMARY OF LATEST AVAILABLE DATA ON LIGHT CRUISERS.

1 February, 1923.

Cruisers.

BUILT.

Name.	Date.	Displacement.	Speed.	Guns.	Radius.
Asama	1899	9,885	21.5	4–8″, 14–6″	6,480
Yakumo	1900	9,735	20.5	4–8″, 12–6″	4,480
Izumo	1900	9,826	20.7	4–8″, 14–6″	5,280
Iwate	1900	9,826	20.7	4–8″, 14–6″	5,280
Kasuga	1904	7,700	20	1–10″, 2–8″, 14–6″	
Nisshin	1904	7,700	20	4–8″, 14–6″	6,100

PROJECTED.

Four ships of 10,000 tons. No details.

Light cruisers.

BUILT.

Name.	Date.	Displacement.	Speed.	Guns.	Radius.
Suma	1896	2,700	20	2-6″, 6-4.7″	5,250
Akashi	1899	2,800	19.5	2-6″, 6-4.7″	5,250
Chitose	1899	4,992	22.5	2-8″, 10-4.7″	6,900
Tsushima	1904	3,420	20	6-6″	4,140
Tone	1910	4,100	23	2-6″, 10-4.7″	7,340
Chikuma	1912	4,950	26	8-6″	6,000
Hirato	1912	4,950	26	8-6″	6,000
Yahagi	1912	4,950	26	8-6″	6,000
Tenryu	1919	3,500	31-33	4-5.5″, 6TT	6,000
Tatsuta	1919	3,500	31-33	4-5.5″, 6TT	6,000
Kuma	1920	5,500	34-36	7-5.5″, 8TT	6,000
Tama	1921	5,500	34-36	7-5.5″, 8TT	6,000
Kitakami	1921	5,500	34-36	7-5.5″, 8TT	6,000
Kiso	1921	5,500	34-36	7-5.5″, 8TT	6,000
Oi	1921	5,500	34-36	7-5.5″, 8TT	6,000
Nagara	1922	5,570	34-36	7-5.5″, 8TT	6,000
Natori	1922	5,570	34-36	7-5.5″, 8TT	6,000
Kinu	1922	5,570	34-36	7-5.5″, 8TT	6,000
LAUNCHED.					
Isuzu	1921	5,570	34-36	7-5.5″, 8TT	6,000
Yura	1922	5,570	34-36	7-5.5″, 8TT	6,000
Abukuma	1922	5,570	34-36	7-5.5″, 8TT	6,000
LAID DOWN.					
Naka	1922	5,570	34-36	7-5.5″, 8TT	6,000
Sendai	1922	59570	34-36	7-5.5″, 8TT	6,000
Yubari	1922	3,100	(1)	(1)	(1)
ORDERED.					
Jintsu-U		5,570	34-36	7-5.5″, 8TT	6,000
Kako		7,500	(1)	(1)	(1)
Furutaka		7,500	(1)	(1)	(1)
Kinugasa		7,500	(1)	(1)	(1)
PROJECTED.					
One ship of 7,500 tons. No details.					

[1] No details.

According to the Japanese press, the Japanese light cruiser *Abukuma* was launched on 1 December, 1922, at the Uruga Dockyard.

The displacement of the *Abukuma* is 5,500 tons.

JAPAN.

VARIOUS NAVAL ITEMS.

December, 1922.

NOTE.—From Vernacular Press.

The Japanese submarine *No. 68* was launched at the Kure Navy Yard on 5 December, 1922.

It is reported that the tonnage of this submarine is: Surface, 750 tons; submerged, 1,000 tons.

The Japanese destroyer *No. 3* was launched at the Nagasaki Shipbuilding Yard on 8 December, 1922.

The *No. 3* destroyer is of the same type as the *No. 1*, i. e.: Displacement, 1,400 tons; length, 320 feet; beam, 30 feet; draft, 9 feet 7 inches; speed, 34 knots; engines, two turbine.

The Jananese destroyers *Fuji*, *Hagi*, *Suzuki*, and *Tsuta* have been assigned as training vessels for the torpedo and engineering schools. These ships are to leave the Kure Naval Station on 23 December, 1922, for the Yokosuka Naval Station.

Japanese submarine *No. 68* was laid down in June, 1922, and launched 5 December, 1922.

There arrived at Yokosuka December 6, 1922, on board the *Tosa Maru*, a coastal motor boat built for the Japanese Navy in England.

She is reported to have a displacement of 17 tons, a length of 60 feet, and a speed of 45 knots.

The *Hosho* having successfully completed all acceptance trials was accepted by the navy December 27, 1922.

On her final speed trial the *Hosho* made approximately 26 knots.

The *Hosho* is an aircraft carrier.

Submarine *No. 59* was launched at the Mitsubishi Shipyard, Kobe, on 21 December, 1922.

FRANCE.

ARMY AVIATION DATA.

31 December, 1922.

Number of planes in service (budgetary effectives) in metropolitan France	1,217
Total number in stock at end of year 1922 (of which 140 are military-school machines)	4,200
In Morocco, Algeria, Tunisia, Levant, Constantinople, in service, approximately	250

In France, including colonies, on December 31, 1922, there were 130 squadrons (escadrilles), of which 105 squadrons in France (metropolitan).

Number of officers, metropolitan and colonial, approximately 1,350; men, 32,000, of which in France (metropolitan) 4,000 were noncommissioned officers. The number of men includes those in regimental formations and all others on military aviation duty.

Although these numbers are found in official parliamentary publications, they should be taken as being very approximate only.

FRANCE.

FOREIGN POLICY.

29 January, 1923.

The following report has been received in this office:

American public opinion as to foreign affairs is largely formed by the press and by American politicians seeking to make capital in their districts.

Thus the mere use of a common language, and by the most effective propaganda service of the present day, renders it entirely simple for the British view to be fully expressed in the American press; and large communities of people of German descent and sympathies, again exploited by active propaganda in the United States, serve to express a German view in Congress and in the press.

The French point of view, however, has little hearing, not alone because of the foreign language but more particularly because the voters in America of French antecedents and sympathies are so few as to concern no politicians; their case is not even presented, much less heard.

This is not to say that this paper is prepared with the idea of presenting the French case, excepting as Americans are fair-minded enough to want to hear the "other side," and the French case happens in this instance to be that other side. It is therefore only the French side which will be presented in what follows:

No word written on European affairs of to-day, and particularly on the French viewpoint, should fail to make mention at the outset, and to keep always prominent in the American mind, the fact that Europe, and especially France, suffered bitter disappointment when Mr. Wilson, professing to bear the mandate of American people at the peace conference, exacted of Europe certain things in that conference which the United States themselves later repudiated. In America we are inclined to forget this cardinal point, and it is only with a start of surprise that we hear anew from Europeans that America occupies the unenviable position of a quitter.

Not that the writer would have America do otherwise than we have done in declining to ratify the treaty of Versailles and the League of Nations. The former is iniquitous, while the latter has sunk into the realm of selfish politics and thereby lost all claim to usefulness, fallen into the hands of an irresponsible majority which overrules the minority which is composed of the powerful and therefore responsible nations.

Thus to the mind of the writer, and from the American point of view, we have very good reason for keeping out of the European mess just as long as possible; but we must always bear in mind the fact that Europe does not see our point of view.

In particular does France not see it, since it is France whose position suffers most from our not ratifying the treaty of Versailles and the treaty by which, with England, we were to assure her of our armed support in the event of German aggression; the promise of this support prompted M. Clemenceau to give up certain vital military safeguards urged by Marshal Foch, but when we had failed to ratify there was no means of recovering those safeguards. Add to this the fact that by denying our own support to France we automatically absolved England from similar obligation to come to the rescue of France.

The failure of America and England to make good on the treaty of support makes it imperative that the French keep up a large peace army which German propaganda in America seeks to decry as imperialism. No oratory in the American Congress or newspaper articles can have as much weight with the French people in their earnest desire to reduce their army costs as does their dire need for man power in their activities in France (ill spared to military purposes), nor as has this year's deficit of nearly 4,000,000,000 francs in their budget. Meantime they have cut in two the term of military service.

This same budget deficit makes it a matter of no material concern whatever to America whether France ratifies the limitation of ships agreement or not. Long years will pass before France can even dream of keeping up to the low standard set her by the Washington agreements and equally many years must pass before she can build a submarine flotilla that could cause an anxious moment to anyone in England.

ANGLO-FRENCH RELATIONS.

The rivalries of these two countries date back through the centuries. To many of the comparatively few Americans who have read of the Battle of Hastings and the Norman conquest those events mark—almost the dawn of history—400 years before we were discovered! Yet the French and English had long been rivals even at that early date.

Following the Napoleonic wars, England's hand is seen in placing the Rhine well within the German borders, lest France again engage in what propagandists would call her favorite sport of making war on Europe. But a crushed France in 1871 did not prompt England to intervene when Bismark demanded Alsace-Lorraine.

In the immediate past it was only under the benign influence of the late King Edward the Seventh that the Entente was possible, and found England and France side by side in the Great War against a common enemy. But an inside history of the jealousies and rivalries experienced between them during the war would read as though they had been fighting on opposite sides of the conflict.

Only the desperateness of the situation forced them, after frightful losses, to accept unified command of the allied armies. This fact, with last-minute resources and men from America, made the victory possible. But the defeat of the enemy left the two rivals without that bond that had held them united during the last 20 years. Men who had grown to maturity during that time

were shocked because they had lived only during that period of comparative unity, to see battle brothers no longer on good terms.

But the mainspring of thought and action by nations lies not in the minds and hearts of those who fight their battles. It lies rather in their relative economic positions. And we find England and France confronting one another from the age-old points of difference, excepting that during these last 20 years they had lost the habit of being at odds, and the relapse is the more difficult for them to appreciate.

To the French people England is best known as Perfidious Albion; from one diplomatic encounter to another France returns with the conviction that she has been worsted; and the rupture of this last conference, reconvened in Paris 2 January, 1923, is but one more repetition. While points of difference were known to exist at the time of adjournment in December, there was no faint thought in the French public mind that Bonar Law would come to Paris with a plan of action that he and his cabinet could but know was wholly impossible of acceptance by France.

Let me interpolate a parenthetical paragraph:

The French say that America in her own conference at Washington, and on her own ground, was beaten by England in much this same manner. The lesson to both France and America is, of course, the development of trained diplomats and well-considered national policies for their guidance.

The first point of fundamental difference is whether a moratorium of, say, four years shall be granted Germany with or without guarantees. France claims that Germany's present financial position is due to her own fault and that further trust in the good faith of Germany to make good on reparations or to restore her own credit were futile. England, on the other hand, claims that Germany's credit must be reestablished for the economic welfare of Europe before reparations should be exacted, and that for the Allies to exact guarantees would be to defer revival of German credit. But the British press are far from being a unit with their Government, and it is even said that Bonar Law's proposition was directed by financial interests and presented to France in the absence of Foreign Office approval.

Now, referring to earlier comments herein on propaganda and the influence of the press on public opinion in America, appeal is made to us that Europe is confronted with a bad debtor and that every-day practice in business affairs is to give the debtor a chance before foreclosing on him. So why not do thus by Germany? The United States are interested in this because the payment to us of allied war debts is largely dependent upon payment of reparations to the Allies by Germany. American and British bankers and investing public are interested in German credit to the amount of nearly $2,000,000,000 that were invested in German bonds, in 1919, when the mark was worth 5 cents. Why, then, be too hard on Germany? Let the French come to the more considerate view, say the British, their own case being well presented in the American press and in American Government circles.

Being thus considerate means of course further delay on Germany's part in making payments on reparations account. England makes no proposition to restore economic resources to Germany, such as German colonies that fell to England by the treaty of Versailles or of merchant shipping that changed hands under the same authority. In other words, this project of being considerate to the bankrupt has in mind major sacrifice on France's part, and but minor sacrifice by England.

Another point in England's recent proposal as to reparations is that the Reparations Commission be abolished and another body be set up in its place.

The treaty of Versailles sets up a sort of executive tribunal, the Reparations Commission, which interprets the reparations clauses of the treaty and informs Germany of her detailed obligations. It also informs the Allies' governments concerned when, in its opinion, Germany has failed to make good. The presiding officer of this commission is French, other allied countries are represented by members, and England names the secretary general, who is said to exercise no small control as to the agenda for meetings.

A few days after resuming the conference of premiers in Paris on 2 January, 1923, the Reparations Commission voted on a question of Germany's default in a comparatively small matter, but one involving a fundamental principle. The majority, including all others than the English member, voted against the latter in adjudging Germany willfully delinquent. The English member left promptly for London and did not return until in company with Mr. Bonar Law and the English proposition that the Reparations Commission be abolished! (If England can't run it, then abolish it.) Worse yet, that it be replaced by a body presided over by a German and with the United States invited to sit in as a member, this latter by way of seeking American support to the whole proposition.

Needless to say, M. Poincare rejected the English plan (he could not have done otherwise and remained in office over night); and the English scored a point in America by executing this coup at the very moment when the British Chancellor of the Exchequer and the president of the Bank of England were landing in New York on a mission to get easier terms on their debt to us, their thought being:

"You see how utterly hopeless the French are, Sam, old dear, and as long as they persist in pressing the debtor we are going to be awfully hard pressed to pay our debt to you."

What they are quoted as actually saying is:

"The world is sitting on an anxious seat, for there is danger of revolution in France as well as in Germany. The depression of currencies that is certain to follow the break up of negotiations may include the franc and that coin may go the way of the mark."

Whether Mr. Stanley Baldwin really said this or not, it is the most absolute bosh and was published to influence the American public against France, in a desperate bid for American sympathy for England. Nor does it make mention of the fact that Belgium and Italy stand with France on the whole question, that it is England and not France that is isolated.

Coincident with the rupture of the conference of premiers in Paris on 4 January, British officials gave publicity to the fact that some millions gold of French and Italian money had been placed in the British treasury during the war against a loan, and that this gold had now been discovered to have beer transferred to the United States before the armistice. The publication of this fact, together with the quotations from prominent British officials, such as "I fear the realization of the French public of this fact will serve to depreciate the franc," savors very strongly of anti-French propaganda, for the reason that for the few days following the French and British papers have thoroughly aired the subject, and it now appears that there was nothing irregular in the transaction and that there is no cause for the French public to show concern over it. Nor do they.

The British press wonders how France is going to make good in her isolation. France is not worried about it. Nor is France disturbed when the British press charge her with being "unwilling to compromise." France has come to believe that compromise, as understood in England, has much the same meaning as in

the family where the husband was anxious to keep a dog and the wife wanted to keep a cat, whereupon they compromised and kept a cat. The French quote many incidents since the armistice to support this conviction.

LAUSANNE.

There has been speculation as to what effect the split in Paris would have on the proceedings of the conference at Lausanne. To date, it appears that the interests involved at Lausanne are so intimately related among themselves as to be well nigh independent of other issues. Thus, France has financial interest in large sums due from Turkey on the Ottoman debt, and this is one of the subjects under serious consideration at Lausanne. To have British backing in this serious matter, France is expected to play England's game at Lausanne, a solid allied front against the Turk, now haughty as well as terrible.

But the French do not fail to comment on England's grasp of the oil fields in Mosul, and it is of interest to note that in a recent interview the British general, Townsend, states to the British public that England has no business in Mosul; that it was not occupied by England at the time of the armistice, nor included in the terms of the latter, but ruthlessly occupied by England later, and that, in any event, the oil region is so far removed from water and other communications as to be wholly beyond reach of support in case of attack.

Nevertheless, claim the French, the vital bone of contention upon which conferences failed at Cannes, Genoa, and elsewhere is the possession of oil fields, and there are those who expect to see the conference at Lusanne fail to agree, and on the Mosul oil fields.

But it does not need the question of oil resources in Mosul to split the Lausanne Conference. The silent but ever-increasingly strong wave of Pan-Islamism is giving the Turkish delegates such confidence in their power and such inspiration to labor for the triumph of their cause that we should not be surprised if the Lausanne Conference were to fail on any one of a dozen issues. I have been told by one eminently qualified to talk on the subject that of all the peoples of the world only the Turks are prepared to-day to fight, and that they look with perfect equanimity upon the prospect of a break at Lausanne. Europe is unprepared financially to carry on a war, and in no country in Europe would a war against the Turks receive popular support. Thus the Turk is in a position to carry on an interminable guerrilla warfare whether Europe likes it or not.

AMERICA'S PART.

Europe looks to America to come to the economic rescue; in other words to pay the bill. A certain group of Americans living in Paris long since voted their opinion to be that in the end America would pay for the war. Intelligent and farseeing Americans living in Europe are divided as to what is America's duty. They are in agreement that the task of the mediator is a heavy one, particularly if he be the creditor. They agree that each of the debtors will seek special consideration, and that we can expect no pleasant smile from any of them for which we do not pay in cash, and which will turn sour the moment we seem to tighten up on the purse strings. We shall be despised for every dollar we give up. It is not what England or France may do with the money, not how large an army France believes she needs for protection against Germany, but rather how much they can do us out of. We came into the war seeking no advantage, material or otherwise. We find ourselves in the unhappy position of world creditor. England and France hold strategic and

other advantages at our door that can serve them in no way other than as points upon which to base aggression directed at us.

Just as wars result from economic clashes between nations, the world now finds its economic balance very much disturbed as a result of the Great War and of the failure of the treaty of Versailles to meet the needs of the situation. Instead of ameliorating the economic conditions resulting from the war, the treaty was framed with the view of giving economic advantages to one and another of those powers whose delegates sat in the charmed circle and could manage to divide the spoils in such manner as not to interfere with one another.

The iniquity and injustice of such a treaty is demonstrated in its utter failure to accomplish the peace of the world.

So we find Europe casting about for a formula that will accomplish economic restoration, but every nation looking to the others to make the necessary sacrifices.

Germany, shorn of her colonies as a source of revenue, offers passive resistance to her creditors.

France, restoring millions of devastation caused by Germany, expends from her own pocket and hopes to collect from Germany.

England, having acquired the choicest of German colonial resources, having seen the German fleet sunk at Scapa and with the German merchant marine as yet crippled, is taxing her wealthier and middle classes in order to pay unemployment doles to thousands of idle workpeople.

America, with bumper crops, and billions of money owing her, is unable to market her produce.

To some the answer is certainly clear—let America cancel the debts.

To others there presents itself the question as to why America, having accepted no colonial or other advantage resulting from the war, should make this enormous gift to those nations whose material profits and increased resources have been enormous. To these latter, and perhaps to the great majority of Americans, the answer is, or will be when better understood—let us cancel the debts, for a *price*.

Let us then come out with the utmost publicity in a statement and propose the cancellation of all allied debts in the interest of restored European and world economics, on the conditions that—

(*a*) All allied territory and islands south of Canadian shores and in the Caribbean Sea be transferred to American sovereignty in perpetuity.

(*b*) All oil concessions whatsoever held by any of the Allies within a radius of 2,000 miles of the Panama Canal be made over to the United States Government for all time, and that all future oil interests within that radius be recognized as essentially, primarily, and exclusively American.

Governmental backing of private enterprise in matters of national interest is a British characteristic that has been productive of great national strength. To cite but one such interest, we find the British nation not only backing private oil interests but actually engaging one of its governmental departments (navy) in the exploitation, production, etc., of oil. On the other hand, let a member of the United States Government or a Senator or Congressman so much as utter a kind word in behalf of the Standard Oil Co., for instance, and he is immediately damned as being a tool of the "interests." Indeed, since the Standard Oil Co. has been singled out perhaps more than any other American institution for this form of attack, we may well ask if perchance such systematic attack through the years has not been prompted by British propaganda. There may be more logic in this thought when we consider the national determination of the British to monopolize all the oil in the world.

French are taking measures sufficient to insure deliveries of coal from the Ruhr, and this action will put them in position to exert further pressure as may be necessary to force Germany to meet other obligations.

Being already on the Rhine with troops, this will involve very small troop movement unless met by German opposition, which is not to be expected.

Perhaps the greatest protest, greatest because the loudest, comes from English sources, since this French move in the Ruhr means cheaper coal delivered to French industries, and thereby restricts if it does not close French markets to British coal; at the same time that it puts French industries in better position to compete with German, on a basis more nearly approaching pre-war conditions before the German invasion worked such havoc on French industries.

FRANCE.

LOSS OF MORALE IN THE ARMY.

20 December, 1922.

As in most armies the morale of the French Army has suffered since the conclusions of the war due to reduction in the number of organizations, officers, and noncommissioned officers.

Every three months the commanding officers of regiments, etc., forward reports concerning the morale of their organizations. It has been evident for some time that especially in the garrisons in France itself, where organizations have been reduced to skeletonized units, the morale is at a low ebb, and more especially so in regiments of infantry.

The officers and noncommissioned officers of the infantry regiments have particular reasons for being worried about their future, and dissatisfied with the past. In the last two years, 46 infantry regiments have been dropped from the active list, and the majority of the officers and noncommissioned officers of these regiments have been forced to change station. This has been an extremely costly process for them, and the Government allowance for change of station in no way covered the expenses incurred. Moreover, an officer or noncommissioned officer arriving at a new garrison was almost certain to find the question of obtaining a house or apartment almost unsolvable.

The present army reorganization bill pending before the House of Deputies calls for the elimination of an additional 50 regiments of infantry. In consequence this arm of the service is suffering from a new period of depression due to the uncertainty as to their future, as no infantry regiment is sure to be continued. The morale of the infantry officers and noncommissioned officers is consequently very low, and no immediate amelioration seems possible.

FRANCE.

NAVAL GUN FOUNDRY AT RUELLE.

2 January, 1923.

The Ruelle foundry is located near Angouleme in the small village of Ruelle, about 7 km. from the former city. The arsenal is primarily a gun-finishing plant for guns of all calibers up to the 45-cm. gun, which will be constructed here in the near future. There is also a cast-iron foundry, a small crucible-steel plant for making high-grade steel for breechblocks and other small parts of guns, a small cartridge-case shop, and a projectile shop. The capacity of the iron foundry is about a 50-ton casting, while a 25-ton casting can be poured in the steel plant. The shrink pit in the gun plant will accommodate a tube 25 m. in length.

A new steel plant is now under construction, approximately 90 m. by 35 m. It will contain a 5 and a 2½ ton Vickers electric converter for making small-gun forgings, etc. It was also understood that additional shops would soon be built near the same site for housing the new forging equipment.

A fine new laboratory building has just been completed. This building is approximately 46 m. by 13 m., two stories high (each story 4.5 m. high), and will house the new chemical and metallurgical laboratories.

There are at present about 1,100 men employed at Ruelle, working eight hours a day. During the war about 6,000 men were employed here. Most of the routine work now in progress consists in repairing old 320 and 340 mm. guns, which it is now intended to mount on railway carriages for seacoast-defense purposes.

HIGH-VELOCITY GUNS.

The most interesting work now in progress at Ruelle is the construction of two new high-velocity guns. A 100-cal. 57-mm. gun was completed at Ruelle some time ago and tested. It was stated that these tests are still in progress. Using the information obtained from these tests, two additional high-velocity guns are now being constructed. One gun consists of an old 270-mm. gun which is being retubed to 100 mm. and will have a length of 160 calibers. It is expected that a muzzle velocity of 1,400 m. per second will be obtained with this gun. A projectile weighing about 16 kg. will be used.

The second gun is of entirely new construction. It is a 50-mm. gun and will have a length of 200 calibers. This new gun will be constructed by radial expansion. The French hope to obtain a muzzle velocity of 2,000 m., or about 6,500 feet per second, with this

gun. To obtain this astonishing muzzle velocity, it is expected to test this gun up to about 10,000 kg. per square cm., or approximately 140,000 pounds per square inch. It was stated that it had not yet been definitely decided what slope of rifling would be used with this gun, but that the slope would probably lie between 4° and 5°. The ordnance engineer in charge of this work stated that undoubtedly excessive erosion would take place with both of these guns.

NEW 137-MM. GUN 75 CALIBERS LONG.

The new experimental 137-mm. gun was seen under construction. The rifling in this cannon was unusual, as each land was approximately three-fourths of an inch wide. The gun will be used to experiment with rifled projectiles. The slope of the rifling was 11° uniform. For a distance of about 6 inches ahead of the forcing cone all the lands except two were being cut away. It was stated that this unusual arrangement would permit the projectile to be more easily loaded into the gun at the breech end.

FRENCH RIFLING PRACTICE.

No changes have been made in the French rifling practice since the war, except that all new guns are rifled with a uniform slope. A 340-mm. gun was observed in the rifling lathe. The width of the land was 3 mm., depth of groove 1.9 mm., radius of fillet at the bottom of the groove 1.9 mm.; number of lands=102, or three times the caliber of the gun in c/m.; twist uniform and at 7°.

RIFLED PROJECTILES.

Several rifled projectiles 137 mm. for the 137-mm. gun referred to above were seen in the projectile shop under construction. The rifling on the projectile extended from the junction of the boat-tailed portion, with the body of the shell, to the beginning of the ogive. Several 135-mm rifled projectiles were also seen, but these were rifled with the ordinary rifling. At the beginning of the rifling near the base of the shell were cut four recesses, which housed four steel buttons, which were urged outward by springs. These buttons are used to stop the projectile at the forcing cone. When the projectile is fired the buttons are pushed into the recesses in the shell, out of the way. Other rifled projectiles were seen which had one narrow rotating band in the usual location.

While it was evident that considerable energy and money are being expended at Ruelle on experimental rifled projectiles, the technical officers there do not regard rifled projectiles favorably and do not consider them practical. They are of course necessary for

the very high muzzle velocities expected with the long experimental guns.

PROJECTILES.

The French naval service uses two or three copper rotating bands, each relatively narrow, say three-fourths of an inch. One band is placed as near the boat-tailed portion as possible, while in the case of the 155-mm shell, for example, the third band is placed about 1 caliber from the first, with the second band between but just in rear of the third band. The latest models of projectiles seemed to be equipped with only two rotating bands of the same width. The rotating bands are at present made of pure copper and are put on cold under a hammer and then turned off in a lathe.

The boat-tailed end is conical. The boat-tailing is at an angle of 7° and one-half of a caliber in length.

CARTRIDGE CASES.

In the cartridge-case shop cartridge cases for guns up to 155 mm. are made. For larger guns obturating breech plugs are used. Some experimental cartridge cases for 155-mm. guns and smaller were seen which had steel bases. The steel bases are machined separately. The cartridge bodies are drawn to size in the usual manner except that the base end is only about one-half closed in. A bronze washer fits between the end of the body and the steel base. The body of the case is pushed into the steel base and expanded. It was stated that such bases withstand high chamber pressures without deformation and prevent the case from sticking. Experimental cases of welded steel and drawn aluminum were also seen. It was stated that these latter cases were not very satisfactory.

RADIAL EXPANSION.

Considerable experimental work in radial expansion is now in progress at the Ruelle Foundry. Preparations are now being made for the manufacture of the 45-cm. naval gun by this process.

Experimental forgings about 6 inches outside diameter by 15 feet long are being subjected to internal pressure of 2,000, 3,000, 4,000, etc., up to 10,000 kg. per square cm. The tube is subjected to an internal pressure of say 3,000 kgs. per square cm.; then the apparatus is dismantled and complete measurements taken. The apparatus is then again assembled and the next pressure applied, etc., in 1,000 kgm. steps. The tube under test is supplied with cylinder heads which are equipped with two loose steel rings and two rings of

dermotine packing similar to the arrangement used for a recuperator piston head. The two heads are held in place by six long rods which pass through the cylinder-head forgings and lie parallel to the axis of the tube. These bolts are threaded at both ends and provided with nuts to enable the heads to be forced into the cylinders. They can also be readily disassembled. The table under test is covered the entire length with loose forged-steel rings about 1 foot wide. These rings protect the personnel conducting the tests, in case the tube is ruptured. The liquid is introduced through one of the steel cylinder heads by means of a small steel pipe. The high pressures used are obtained by means of a small power pump and accumulator.

The ordnance engineer in charge stated that it was his opinion that this process would be used in the future in the construction of all guns except possibly the larger guns. The work of constructing the 45-cm. gun by radial expansion has not been started at Ruelle, but is in progress at the Schneider plant at Le Creusot. He is following this work and visits that plant once every two weeks. He stated that the main tube had been completed and that two of the smaller forgings had been expanded at a pressure of 3,500 kgs. per square cm. Serious difficulty has, however, been encountered in this work due to the lack of uniformity of the forgings. Small spots were encountered in one of the large forgings which result in the formation of pockets due to a lack of homogeneous metal. The only remedy is to rebore the tube to a new inside diameter, cutting out enough metal to remove the pocket. If large forgings can be made sufficiently homogeneous, the largest guns can be successfully built by this new process.

FRANCE.

ST. CHAMOND RAILWAY MOUNT.

13 December, 1922.

Two guns of this model are being constructed by the autofrettage process by Schneider at Le Creusot. (Special attention is invited to the high chamber pressure used in this gun and the corresponding unusually high muzzle velocity.)

Caliber of gun	240 mm.
Length in calibers	51.
Weight of projectile	160 kgs. 352 pounds.
Weight of powder	100 kgs. 220 pounds.
Maximum gun-chamber pressure	4,000 kgs. 56,500 pounds (per sq. cm.) per square inch.
M. V	1,200 m. s. 3,940 f. s.

Height gun axis above rails	3.5 meters 11.47 feet.
Firing limits elev	+15° to +50°.
Azimuth	360° from track.
Total piston-rod pull at 15°	177 tons.
Recoil of gun in cradle	19.7 inches.
Recoil of top carriage on chassis	59.2 inches.
Inclination of chassis rails	5°.
Total weight recoiling parts	120,000 pounds.
Total weight tipping parts	106,000 pounds.
Total weight rotating parts (without 7 rounds reserve ammunition)	165,000.
Total weight rotating parts (with 7 rounds reserve ammunition)	169,025.
Total over-all length of amount	48 feet.
Number of axles	8.
Load per axle	37,000 pounds.
Outriggers	4.
Distance between axles	34.5 inches.
Number charges on loading tray	7.

The gun is mounted in a cradle which in turn is supported on a sliding-top carriage, so that two distinct recoil systems are used. This system of double recoil greatly reduces the firing load and makes it possible to obtain all-around fire with this type of carriage and anchorage. The cradle trunnions are placed far to the rear, and the balance is restored by a horizontal hydropneumatic equilibrator (St. Chamond type) similar in design to that used on the 14-inch Armstrong railway mount.

The top carriage occupies a position to the rear for transportation in order to equalize axle loads. The top carriage is brought to this position by means of a long horizontal screw connected through suitable gearing to an electric motor. For firing, the top carriage is moved forward about 5 feet to its lowest position on the chassis rails. The top carriage is of cast steel, while the remainder of the carriage is mostly of structural steel. The racer consists of a thin steel casting, bolted to the chassis girders, traversing on conical rollers of the usual type. The base ring is a similar light casting bolted to the car body proper.

The car body is of the drop-frame type quite similar to that used for the 8-inch gun railway mount, model 1918.

In firing, the mount is supported by means of four screw outriggers bolted to the side frames of the car, and located almost vertically under the roller path. These outriggers are inclined not more than 15° to the vertical, being placed as near the vertical as the end of the railroad ties would permit. These outriggers reduce the bending moment on the car sills due to the vertical component of the firing load.

The horizontal component of the firing load is taken up by means of rail clamps placed in rear of each wheel of the rear truck, and in

rear of the four rear wheels of the front truck. In front of the other four wheels of the forward truck are placed similar rail clamps to absorb the horizontal component of the counterrecoil.

LOADING ARRANGEMENTS.

The projectiles are carried in a separate ammunition car which is coupled directly in rear of the gun mount. The projectiles are raised by means of an overhead hand hoist on to a loading tray and slid forward on to a loading platform attached to the rotating parts of the carriage. This tray has storage space for seven projectiles. A short separate loading tray connects the storage platform with the breech of the gun. The ammunition is loaded into the gun by hand. Ammunition can only be transferred from ammunition car to loading platform of the gun carriage when the gun is parallel to the longitudinal axis of mount.

ELECTRICAL EQUIPMENT.

Electric motors are provided for moving the top carriage from the traveling to the firing position, for elevating and for traversing. Electric motors are also located on the front and rear trucks. These motors are connected through a chain drive and suitable reduction gearing to the truck axles, thus providing a means of moving the mount along the track at a slow rate of speed. The electric current for these motors is not generated on the gun mount.

FRANCE.

TORPEDO PRODUCTION.

13 January, 1923.

In a discussion concerning the naval budget which was held on the 14th of December, 1922, before the Chamber of Deputies, Mr. Henri Aiguier stated as follows:

The torpedo shops of Toulon, with a personnel of 450 workmen and 2 engineers plus an understudy, are called upon to manufacture 140 torpedoes per year, as 60 come from the Saint-Tropez shop.

There should be—it is no mystery for anybody, and I shall not be contradicted by the Government representative—at Toulon at least 700 men and a reasonable number of engineers, of technical agents and leading men, in order to properly carry out the fabrication of the necessary torpedoes for the French Navy.

The question is how much should the peace fabrication be augmented in time of war?

I am not the custodian of the secrets pertaining to the national defense; but I think I may affirm that if our needs in time of peace are 200 torpedoes per

year, in time of war the monthly demand would be equivalent to the annual demand in time of peace.

The above indicates from very authentic source that the French Navy count on the production of 200 torpedoes per year during peace time.

FRANCE.

VESSELS UNDER CONSTRUCTION OR APPROPRIATED FOR.

19 January, 1923.

The characteristics of the Duguay-Trouin class of light cruisers, of which three were appropriated for in the 1922 program, are as follows:

Length:
P. p., 175 m.=574 feet 2 inches.
Over all, 181.6 m.=595 feet 10 inches.
Breadth: 17.2m.=56 feet 5 inches.
Draft:
Mean, 5.10 m.=16 feet 9 inches.
Full load, 5.70 m.=18 feet 11 inches.
Displacement:
8,000 normal=7,873 Eng.
9,075 full load=8,931 Eng.
Complement: 492.
Guns:
8—155 mm. (6.1-inch), 4/53. 1920. In pairs.
4—75 mm. (3-inch).
4 triple tubes (12 tubes).
1 seaplane.
Freeboard:
10 m. (32 feet 10 inches) forward.
7 m. (23 feet) amidships.
7.25 m. (23 feet 9 inches) aft.
Parsons turbines. Three screws.
Endurance: 5,000 miles at 15 knots.

The characteristics of flotilla leaders, *Jaguar* class, of which six were appropriated for in the 1922 program, are as follows:

Length:
P. p., 119.70 m.=392 feet 9 inches.
Over all, 121.90 m.=399 feet 11 inches.
Breadth: 11.16 m.=36 feet 7 inches.
Draft:
3.65 m.=12 feet.
Full load, 4.00 m.=13 feet 1 inch.
Displacement:
2,400 normal=2,362 Eng. tons.
2,780 full load=2,736 Eng. tons.
Complement: 8 officers, 198 men; total, 206.

Armament:
6—130 mm. (5.1-inch) twin mounts.
2—75 mm. (3-inch).
6 T. T., 55 cm. (triple mounts; 21.6-inch).
Oil fuel:
250 tons normal=246 Eng. tons.
540 tons maximum=531 Eng. tons.
Two screws.
Endurance:
2,600 miles at 8 knots.
700 miles at full speed.
H. P.: 48,000=35.5 knots.

The characteristics of destroyers of the *Bourrasque* class, of which 12 were appropriated for in the 1922 program and 6 only of which were to be laid down in 1922, are as follows:

Length:
P. p., 99.30 m.=325 feet 9 inches.
Over all, 105.60 m.=346 feet 5 inches.
Beam: 9.74 m.=31 feet 11 inches.
Draft:
3.00 m.=9 feet 10 inches.
Full load, 3.35 m.=11 feet.
Displacement:
1,400 tons normal=1,378 Eng. tons.
1,475 tons full load=1,452 Eng. tons.
Complement: 7 officers, 133 men; total 140.
Armament:
4—130 mm. (5.1-inch).
4 torpedo tubes (twin mounts), 550 mm.
Oil fuel:
165 tons normal=162 Eng. tons.
350 tons maximum=344 Eng. tons.
H. P.: 30,000=33 knots.

The characteristics of the submarines of the *Requin* class, appropriated for in the 1922 program, first-class submarines, six in number, 1,100 tons, are as follows:

Length:
P. p., 75 m.=246 feet.
W. L., 75.75 m.=248 feet 6 inches.
Beam: 6.80 m.=22 feet 3 inches.
Draft: 4.50 m.=14 feet 9 inches.
Complement: 48.
Displacement:
Surface, 1,100=1,082 Eng. tons.
Submerged, 1,410=1,388 Eng. tons.
Engine:
Schneider (2), 2,900.
Carels, 1,800.

Electric motors.
Speed: 16 surface, 10 submerged.
Endurance: 7,000 at 9 knots, 10,500 at 5 knots.
Armament:
1—4-inch gun (probable).
8—18-inch torpedo tubes (probable), (4 forward, 2 aft, 2 upper deck).

The characteristics of the *Sirene* class submarines, second-class boats, 600 tons, appropriated for in the 1922 program, six in number, are as follows:

Length: 60–62 m.=196 feet 10 inches=203 feet 5 inches.
Beam: 5.40 m.=17 feet 9 inches.
Draft: 3.20 m.=10 feet 6 inches.
Complement: 39.
Displacement:
Surface, 580=570 Eng. tons.
Submerged, 735=723 Eng. tons.
Diesel engines: 2; 1,000.
Electric motors: 2; 900.
Speed: 14 surface, 9.5 submerged.
Endurance:
2,000 at 10 knots.
9,000 at 5 knots.
Armament:
7—18-inch torpedo tubes (probable).
Guns—Unknown.

ARGENTINA.

ARMY STRENGTH AND COST COMPARED WITH BRAZIL AND CHILE.

January, 1923.

NOTE.—One Argentine nacional=40 cents United States currency (approximately); 1 Brazilian canto=$114.10 United States currency (approximately); 1 Chilean peso=gold, 36 cents, paper, 12 cents United States currency (approximately).

The following tables, while taken from the press, may be considered as fairly accurate in comparing the strength and cost of the armies of Chile, Argentina, and Brazil:

Country.	Surface, square kilometers.	Population.	Inhabitants per square kilometers.	Coasts, kilometers.	Frontiers, kilometers.
Argentina	2,797,113	8,094,084	2.89	4,200	7,600
Brazil	8,485,824	30,635,605	3.61	6,700	10,500
Chile	750,572	3,754,723	5.002	5,500	5,200

FINANCES.

General budget of the nation.	Army budget.	Percentage for national defense, army.
Argentina, 1923: 549,029,013 nac	72,716,497 nac	13.2
Brazil, 1923: 800,000 contos	200,000 contos	25
Chile, 1922:		
348,709,365.61 paper	68,729,896.66 paper	12.8
74,239,878.79 gold	120,933.40 gold	

NOTE.—To the Argentine army budget has been added the amount designated for pensions, or about 13,477,419, in order that the budget be made up under the same conditions as that of Chile and Brazil.

NOTE.—The percentage of the national-defense budget which will correspond to the army (Chilean) for 1923 can not be given because as yet the general budget of Chile has not been definitely fixed, nor the quotas corresponding to the different ministries. However, the percentage corresponding to the army budget will be less, as great economies are being introduced in this ministry.

OFFICERS AND MEN.

Argentina:	
Officers	1,670
Staff officers	521
Troops	9,607
Conscripts	21,000
Total	32,798
Brazil:	
Officers and staff officers	4,436
Noncommissioned officers	17,693
Soldiers	6,540
Musicians	1,262
Civilian employees	350
Conscripts	48,965
Total	79,246
Chile:	
Officers	1,085
Staff officers	166
Civilian employees	243
Cadets	193
Noncommissioned officers	4,829
Soldiers	4,220
Conscripts	9,368
Total	20,104

NOTE.—The number stated as the total of the Brazilian Army corresponds to the number stipulated in the projected reorganization of the army. At the present time the total strength of the army is 66,200.

ARGENTINA.

COMMENT REGARDING UNITED STATES NAVAL MISSION TO BRAZIL.

20 December, 1922.

The United States naval mission to Brazil is occupying a great deal of space in the public press of Buenos Aires just now. Most of the comment is unfriendly to the United States and can be summed up about as follows:

The United States talks about peace and disarmament and then sends a naval mission to Brazil to increase the size and efficiency of the Brazilian Navy. This will force the other South American countries to increase their naval forces and thus instead of disarmament we have the opposite.

This morning I had an appointment with the Minister of Marine, Admiral Domecq García, and during the course of our conversation this subject was discussed.

The admiral, who is very pro United States, spoke quite freely on the subject.

According to him Argentina looks upon the United States-Brazilian agreement as a sort of an alliance and not merely as a naval mission. He says that they can not see it any other way on account of its very official status and the fact that it was signed by the high officials of the two Governments.

Consequently Argentina feels hurt, and while it may not be a display of ill will on our part still it is an unfriendly and unneighborly act.

He then spoke of the extremely cordial relations between our two countries; how he had always been a great friend and admirer of the United States and the United States Navy; how 10 or more years ago he had persuaded the owner of the Prensa to start a campaign for better relations between the two countries; how he had been instrumental in having the *Moreno* and *Rivadavia* built in the United States rather than Europe; what wonderful treatment he and his officers had received in the United States; how they were more than satisfied with the two ships; what good material and workmanship had gone into their construction, and what excellent shape they are in at the present time.

"But now," he said, "with this new alliance we do not know just where we are; we can not properly orient ourselves."

He said one ship was probably to be sent abroad for new installations, and he had hoped to send it to the United States; but now it would probably be necessary to send it elsewhere, to Europe or England.

The point he came back to frequently was that the mission was an official agreement between the two Governments and that we were sending a hand-picked bunch of officers for the job.

He showed me the list of officers and commented on the positions they held prior to joining the mission.

He is quite sure that the friendly feeling between the officers of the United States and Argentine Navies will still remain.

He repeated that Argentina and the United States had more in common than any other two countries in the Western Hemisphere,

and that there was every reason for our becoming better friends as time went on.

In regard to missions in general, he was of the opinion that countries that asked for or received foreign missions of this type were lacking in self-respect.

CHILE.

VARIOUS NAVAL NOTES.

January, 1923.

BRITISH OFFICERS IN CHILE.

On the 1st of January, 1923, the following officers were under contract with the Chilean Navy:

Capt. Geo. N. Tomlin, R. N., director of the Naval War College. Contract extends from 31 May, 1922, to 1 March, 1924, salary, £180 per month.

Commander A. C. Domville, R. N., gunnery instructor. Contract extends from 23 December, 1920, until 30 August, 1923; salary, £1,500 per year.

Col. James L. Travers, R. A. F., instructor in aviation. Contract extends from 29 April, 1922, until 23 April, 1923; salary, £2,000 per year.

In addition to the above, there is an employee, Mr. W. J. Hagley, formerly in the English dockyard service, contracted as an electrical engineer from 21 July, 1922, to 24 September, 1923, at a salary of £600 per year.

NAVAL AVIATION BASE.

The project has been approved to establish the principal naval aviation base of Chile at Quintero, a small port about 20 miles to the northward of Valparaiso.

For the initial expenditures 100,000 pesos have already been allotted, and construction work is now in progress.

NAVAL BUDGET.

The budget as approved for the Chilean Navy for 1923, and which will now be sent to the Congress for approval, is:

Moneda corriente	$37,234,501.22
Chile gold pesos	7,038,753.00

The budget passed for 1922 amounted to:

Moneda corriente	$48,189,672.12
Gold pesos	7,220,815.14

SHIPS IN COMMISSION.

With the above budget for 1923 they propose to keep in active commission during the current year the following ships:

Almirante Latorre	Battleships.
Captain Prat	
O'Higgins	Cruisers.
Esmeralda	
Zenteno	Surveying ship.
Blanco Encalada	School ship.
Cochrane	Gunnery training ship
Uribe	Destroyers.
Lynch	
Williams	
Riveros	
Condell	
H–1, H–2, H–3, H–4, H–5, and H–6	Submarines.
Rancagua	Transports.
Maipo	
Angamos	
Lautaro	Training ship.

And 10 tugs.

CHINA.

A VISIT TO GEN. FENG YU-HSIANG.

December, 1922.

NOTE.—Gen. Feng Yu-Hsiang has been closely associated with Wu Pei Fu and is generally regarded as the latter's "right-hand man." See article that follows on "General Political Notes" (p. 48).

General Feng's headquarters are situated on the outskirts of Kaifeng.

CAMPS AND BARRACKS.

He has a large camp and barracks here capable of holding about 18,000 men with kitchens and messing arrangements. Undoubtedly many more could be accommodated in the immediate vicinity. The barracks of the troops are of recent construction, the work having been done by General Feng's soldiers. They are in the most excellent condition and entirely sanitary.

Close to the camp is a drill ground and athletic field of about one-half mile square. Arranged along the side of this are administrative offices, officers' mess halls, large buildings for schools and lecture rooms, etc.

REVIEW, ATHLETIC EXHIBITIONS, ETC.

A review of some 2,000 troops was held. These troops consist of field artillery and machine guns and infantry. The soldiers were well drilled and the equipment looked in good condition. It is

apparent, however, that it had been frequently used for drills. The men did not seem to have much pep.

After the review the troops were put through athletic exercises in much the same manner as they had been at Loyang. One interesting feature was the singing of the soldiers while marching.

General Feng believes in keeping his officers in good physical condition as well as his men; and after the athletic exercises of the enlisted forces 225 of his officers of all ranks, including colonels, gave an athletic competition. This was in the form of a hurdle race of something over a quarter of a mile; and the hurdles consist of ditches, high stone walls, and wooden fences. These were all taken at a run.

FENG'S PROPAGANDA AND METHODS.

Probably the most interesting feature in General Feng's division is his propaganda to improve his soldiers. This is largely communistic in character and consists of printed instructions dealing with moral character, conduct, duties of soldiers, etc. This feature is extended to the citizens as well as the soldiers, and the walls of Kaifeng, the gateways, all empty wall spaces inside the city, barrack walls in the compound, and the walls of rooms are covered with mottoes. These are from Confucius, from the Bible, and sayings of Feng himself. These are ordinarily short sentences dealing with personal conduct, not such sentences as "This is my busy day," but rather "Evil be to him who evil thinks." These quotations meet the eye on all sides, and it must be admitted disfigure the view much as our advertisements do at home. Just how much good will be done by them is doubtful. The missionary in charge of the largest Chinese school at Kaifeng estimated that the percentage of illiteracy was as high as 90. This was considered exaggerated by some others, who said 75 to 80 per cent. It would, of course, be true, however, that those who could read would pass the material on to others.

In keeping with the above idea, the rooms in the barracks of the soldiers were each furnished with a table for study purposes, and on these tables were a number of books dealing with instructions for soldiers in regard to their duties, in regard to moral conduct, and other similar subjects; a copy of the Bible was also supplied, and a small stiff folder containing General Feng's picture on one side and a text from St. Matthew on the other. Samples of these books are herewith forwarded. On the walls of the mess rooms and the halls used for instruction purposes were large wall maps, with pictures of various objects, from vegetables to machines of all kinds. These were labeled with their names in Chinese. The idea is exactly similar to that used in our own primary schools.

There is no doubt but that General Feng fosters among his soldiers a feeling and attitude of equality of all, commissioned personnel as well as enlisted. He carries out the idea to some extent himself. For instance, he wears the same uniform as his own soldiers (i. e., same material), with his marks of rank attached. From one or two things that I saw, free comment by all hands on military matters was common and criticisms of superiors the accepted thing. One lieutenant colonel commented freely to us on General Feng's conduct, and said very frankly that "General Feng was a local character, whereas of course General Wu Pei-fu was a national one."

General Feng himself is a large, good-looking Chinese of 41. He is energetic, active, alert, and a hard worker. He is a very good speaker and displays, more than Wu Pei-fu, qualities of leadership. I should say that he is fully able to hold the loyalty and support of his officers and men. Considering that he could not read until he was 21 and that he started at that time as a common soldier with no education, he has made wonderful advancement, and this almost entirely by his own efforts. He is, however, badly handicapped by his lack of education and his lack of experience in ordinary matters of administration and intercourse with educated people of his own race and foreign races. He had the appearance of not trusting his own judgment and having to appeal to others for advice or information.

He has been known as the "Christian general" for some years and became a Christian convert about 10 years ago. I am in no position to form a judgment of his sincerity in this matter. Speaking broadly, I think he is somewhat distrusted by his own race and by foreigners in China generally. He is, however, trusted by the missionary elment and thought a great deal of by those missionaries who have been close to him.

I got a very distinct impression that General Feng suffered seriously from lack of competent advisers and a competent staff.

NOTE.—Since the above, General Feng has been shifted from the Tuchunship of Honan to Peking as inspector general of the army.

CHINA.

ATTITUDE EXPRESSED BY SUN YAT-SEN.

8 December, 1922.

The following speech of Dr. Sun regarding the relations of Japan with occidental powers, together with comments thereon by important British newspaper men in China, are quoted below:

"If Japan had aided the Teutonic powers in the World War, all Asia would have risen against the whites, and to-day there would have been an Asia con-

trolled by the Asiatics," Dr. Sun Yat-sen, former "president" of the Canton government, has declared in an interview with a representative of the Jiji at Shanghai.

"In joining in the World War on the side of the allied powers, Japan failed to utilize the golden opportunity of making Asia exclusive for the Asiatics," said Dr. Sun. "Such an Asia would have opposed the whites, especially the Anglo-Saxons. At the beginning of the World War, I wrote Mr. Inukai, president of the Kokuminto, urging Japan to assist the Teutonic powers, thereby impairing the relative strength of the Anglo-Saxons and balancing the power of the world. The result of such a situation would have been the promotion of the position of Japan to the real leadership of the Asiatics. But Japan did not accept my advice, thus letting slip a heaven-sent opportunity of making herself the leader of the Orient.

"If Japan had understood what is called high politics, and if she had been bold enough to declare war against the Allies, Annam and Singapore would have risen to arms against France and England. There is not the slightest doubt but that the Indians would have revolted against Great Britain and that the Turks and Chinese would have recovered their national consciousness and supported her in her effort to unite Asia.

"As it is, Japan participated in the war on the side of the allied countries, with the result that realization of the pan-Asiatic plan has been delayed indefinitely. As Japan has shown herself incapable of seizing this opportunity, it will be China that will be called upon to make Asia a place for Asiatics in the future.

"In the early days of the World War I called upon various Japanese statesmen of influence and urged them to use their weight in influencing public opinion in favor of participation on the side of Germany. They, however, refused to listen to me seriously. Some of them, indeed, showed agreement with my view, but when it came to action they hesitated. And the result is that the best opportunity of making Asia Asiatic in every sense has been lost.

"It is not too late for Japan to undo what she did blindly during the war. If Japan really wishes to see Asia controlled by the Asiatics, she must promote relations with the Russians. Russians are Asiatics. There run in their veins Asiatic blood. Japan must make common cause with the Russians in opposing the aggression of the Anglo-Saxons. In shaking hands with Russia in the work of asserting the rights of the Asiatic alone lies hope of salvation from the catastrophe to which Japan and the other oriental countries are being forced by the unsatiable ambition of Anglo-Saxons."

Dr. Sun Yat-sen again appeared in the rôle of the enemy of Britain in the remarkable interview which he gave to the representative of a Japanese newspaper and which we reproduced yesterday. In that interview, Dr. Sun stated that in the early days of the war he urged various Japanese statesmen to use their weight so as to insure Japan's participation on the side of Germany, the result of which, he says, would have been revolts in Annam and Singapore against the French and British, respectively, as well as revolution in India, culminating in the Turks and Chinese recovering their national consciousness and supporting Japan in her efforts to unite Asia. "Asia for the Asiatics" was Dr. Sun's idea, with Asiatic opposition to the whites,

"especially the Anglo-Saxons." That was Dr. Sun's dream in the early days of the war, and it is evidently still his fond hope, inasmuch as he remarks that "it is not too late for Japan to undo what she did blindly during the war." He then advocates closer relationship with the Russians, who, he says, are really Asiatics, and with whom Japan should make common cause "in opposing the aggression of the Anglo-Saxons."

By degrees we are getting to know exactly where Dr. Sun stands. He is obviously antiforeign in the sense of being opposed to most of the European powers, with special reference to Britain. He conveniently forgets that his life has twice been saved through the good offices of the British, the latest occasion being his recent flight from Canton, when he was glad enough to take refuge aboard a British warship and get away as a passenger on a British liner. Incidentally it is worth noting that political refugees in almost every part of the world find British warships quite convenient when it comes to saving their skins—witness the recent flight of the Sultan of Turkey and members of the Greek royal family. As we were saying, Dr. Sun has much for which to thank Britain, but that apparently does not temper his hatred of us. That is ingratitude, if you like.

Another fact disclosed by this interview is in line with our recent exposure of secret documents found at Canton, namely, that Dr. Sun is working for, all he knows how, to link up China (and Japan as well) with Russia. He wants an understanding between Russia and China, and he also wants Japan to "shake hands" with the soviet. And what is his main object? Opposition to European interests in the east. With him antiforeign ideas have become a mania. By and by we shall know the whole truth.

CHINA.

CONDITIONS AT TSINGTAO.

20 December, 1922.

The necessary arms and ammunition for safeguarding Tsingtao were unloaded from the Shikotan Maru and handed over to the Chinese guards by the Japanese consul general. The Japanese troops are expected to evacuate as soon as affairs in connection with the transfer have been completed.

There are now in Tsingtao and within the leased territory the following well-armed soldiers and police: 900 regular police; 500

military police; 300 marine police, and 1,200 regular soldiers, taken in by Civil Gov. Hsiung Pingchi as he went down to receive the city.

Civil Gov. Hsiung is apparently going to get his idea of recruiting some of the bandits "put across." It is learned from official sources that he is planning to incorporate from 1,000 to 1,500 of these bandits in the regiments of soldiers stationed in the vicinity of Tsingtao. This move is opposed by C. T. Wang and Gen. Liang Shang-tung, of which the latter has resigned his position on account of this bandit issue.

On the 13th instant the Tsingtao Supplement of the Tsinan Jih Pao said, "On December 10, at 12 o'clock, the Japanese consulate was opened with due ceremonies by the consul and the chief of police. There will be five police centers in the port; namely, on Hsin Tan Street, on New Street, on Shantung Street, on Makuan Street, and on Tsang Kou Street. In addition to all these there will be four police centers outside of the port; namely, at Ro River Street, at Si Fang, at Tai Dung Chen, and at Li Tsun. It is hoped to open these centers within a few days."

The Japanese consulate in Tsingtao has attached to it 68 consular police. There are police boxes in different parts of the city, according to the Japanese papers at nine different places. This is causing friction, because Governor Hsiung objects to their presence, while C. T. Wang is supposed to have agreed to let the Japanese have them.

The Japanese also have consular police in Tsinan; supposedly about 30 men. Although they have had them for a long time, it is only recently that they started to appear on the streets in uniform. Now a Japanese consular police in uniform, carrying a sword, goes to the Shantung Railway station every time a train leaves or arrives.

CHINA.

GENERAL POLITICAL NOTES.

December, 1922.

NOTE.—The following observations were obtained from various foreign residents in China:

During the past month there has been no improvement in the political situation and nothing has been done toward establishing a sound government or bettering the finances of the country. The hopes that were placed upon President Li Yuan-heng when he assumed the office of President have not been realized; and as yet he

has not shown himself to be any improvement over his predecessor, Hsu Shih-chang. Several incidents have happened which are of significance:

The enemies of Gen. Wu Pei-fu have succeeded in having his right-hand man, Gen. Feng Yu-hsiang (so-called Christian general), transferred with his troops from Honan to Peking. Neither Wu nor Feng wished the transfer, but were the victims of outside influence, which tried to prove that Wu was double-crossing Feng, and vice versa. This has left Honan Province in a very precarious state, on account of the activities of bandits, who have interrupted traffic on the Peking-Hankow line and taken captive eight foreigners, whom they still hold. A joint protest from all the legations in Peking to release these foreigners has been of no avail.

Ten days ago the Minister of Finance, Dr. Lo Wen-kan, was illegally arrested on instructions of the President, who accused him of having accepted a bribe in connection with an Austrian loan of £5,700,000 for financing warships bought previous to the war. Doctor Lo's accusers have been unable to substantiate their case, and President Li has tried to smooth things over and asked Doctor Lo to resume office and forget, but Doctor Lo has insisted on remaining in jail and having his case tried. Dr. Wang Chung-hui, Premier, and Dr. Wellington Koo, Minister for Foreign Affairs, have hotly protested to the President against his action, resigned their offices and asked to be put in jail along with Dr. Lo Wen-kan. Doctors Wang and Koo were undoubtedly two of the most capable men in the old cabinet. The President is now trying to appoint a new Premier, but has not yet prevailed on anyone to take office and form a new cabinet.

On the surface, Chang Tso-lin is taking no part at present in Peking politics, but is engaged with affairs of the three eastern Provinces and is building up a large army.

Parliament has done nothing constructive since it resumed its sessions. Its latest action has been to impeach Dr. Wang Chung-hui and Dr. Wellington Koo.

One of the most discouraging facts about the present government is their lack of principle and disinclination to properly use what money there is at their disposal. This is exemplified by the Peking-Hankow Railway, which monthly pays $800,000 to militarists at Loyang and Paotingfu and is barely able to put aside $120,000 for the purchase of current supplies for the railway. Practically all of this $120,000 goes to Chinese firms from which the railway officials are able to make purchases to their personal advantage. Foreign firms are given little or no consideration.

CHINA.

PERSONAL OBSERVATIONS OF WU PEI-FU.

December, 1922.

NOTE.—Extracts from a recent official report.

On Thursday Wu, commanding in person, took his entire third division (about 11,000 rifles) on an all-day hike. The men and mounts observed appeared in good shape in spite of a nine hours' hike without food, and there were evidences of good discipline in Wu's division.

On Friday Wu came to our yamen and breakfasted with us, remaining with us until we left his headquarters.

Wu is a small man physically, but evidently a man of good physical endurance; age about 49. Pretty much all his upper front teeth are replaced by porcelains, each porcelain tooth set in a gold frame. This is not a common way to set in false teeth, and in consequence, seems noticeable when one meets him. Other striking features are his large brown eyes, light but ruddy coloring, and sandy mustache, an unusual combination in a Chinese. He might be called a blonde Chinaman. He has an alert mind.

During our visit Wu continued to carry on at his desk, working with his secretaries, going over his mail, endorsing letters and telegrams to indicate the replies, signing letters and telegrams. All the while his mind was not entirely off the conversation. He would offer observations, ask questions, and he gave the impression that he had lost nothing of the subject under discussion, at least nothing essential. He said that he had to do that with all his visitors, that many people came to see him at all hours, some came unexpectedly, and that he had to make a practice and routine of cleaning up business with his secretaries, and allow nothing to interrupt this, otherwise important matters would not receive the prompt attention that they deserved. This conscientious attention to business can only speak of a good quality. He seems to be alive to the civilizing and unifying influence of good communications, for he said that one of the first things that he would undertake to recommend when the country became "reunified" was to clear the upper Yangtse rapids of the rocks and to seek to improve that channel and thus to invite an increase in steamer traffic.

Wu is a poor man. His staff said that Wu's troops are now ten months in arrears of pay, but that they are contented; that they all liked Wu and had faith in him. That Wu has to "borrow" frequently from his merchant friends funds necessary to maintain

his private home and his headquarters. A prominent American, who lately visited Wu and was domiciled in Wu's home, said that Madame Wu had to take charge of the house money each month to keep Wu from spending it on his headquarters. This is in contrast to all other Chinese military chieftains, who, together with their henchmen, put into their own pockets yearly, so his staff said, a total of probably 50 millions (local currency) of the people's money.

In conversation with his chief of staff it was suggested that the most promising course of action looking to "reunification" would seem to be for Wu to make himself Minister of War and then clean up the rebel Tuchuns. The chief of staff said that Wu would take no office until he could go there in accordance with constitutional requirements. This was not intended to imply that Wu has political ambitions. Perhaps he has none, for Wu said that as soon as the country was "reunified" he and his chief of staff were going to tour the United States. This also isolates Wu from all the other military chieftains who have set up autocracies and are suppressing provincial assemblies. In seeking to find out how this man's mind stands quite apart from the mentalities of his colleagues, it was found that Wu has always been a student of the great religions, of politics, and of constitutional government. He is such an authority on the religions that a year ago, in Hankow, Wu addressed the Chinese Young Men's Christian Association for more than an hour on the differences and resemblances of Buddhism, Confucianism, and Christianity and which held out most for the world at large. But the impression was not gained that Wu professes Christianity, although during the farewell "banquet" Thursday evening one of the selections played by his band was the old evangelical tune to "God be with you till we meet again." When it was suggested that Wu got that from Feng (the "Christian general") Wu laughed. Another subject of conversation was the disposal of disbanded troops after "reunification." At Loyang they said that Wu's idea was to colonize the sparsely settled regions of northwest China. When they said that the men were not allowed to take their women, the observation was offered that they could not be contented; that woman was necessary to pioneering, to new home building. They said that they thought they could send out the women in three years. It is safe to predict that this will not succeed, that farmers can not be made out of soldiers unless they have their wives and can set up normal homes.

Something was learned of fundamental Chinese politics.

(*a*) *The Kuomintang* is the party demanding provincial autonomy. The present strong man is Chien Chung-ming (Canton), who drove

out Sun Yat-sen last summer. This group seems fairly well solidified only in the sense that each wants autonomy, but each is maintaining practical independence now and occasionally each gets to fighting the other. They are not solidified in the sense that they obey an outsider. Curiously enough it is somewhat analogous to our Confederate States. The idea is States rights. At Loyang they said that progress was being made toward some sort of compromise with the Chihli Party.

(*b*) *The Chihli Party*, of which Tsao Kun is the leader but in which Wu Pei-fu is the strong man, stands for a strong central government and a union of the Provinces. It is evident that this party molds its ideas on our own system. This party understands that the motive of the Kuomintang leaders is the perpetuation of provincial feudal autocracies for the benefit of the man who can gain power, and that Kuomintang means no less than constant intraprovincial fighting for the procincial Tuchunate, such as went on in Szechwan last summer, in Fuikan a few weeks ago, in Kwangtung when Chien drove out Sun. At Loyang they are working to compromise differences with Kuomintang. The Chihli Party has practically solidified the northern Provinces (less Manchuria and Szechwan). The Provinces of Hunan and Kiangsi are standing between the Chihli Party group and the Kuomintang group, being partially encircled by the latter. Their very position strategically makes them lean toward the stronger party of the two for the time being.

(*c*) *The Anfu Party*, headed by "Little Hsu" (Hsu Shu-tseng). to-day stands for nothing constructive and as a party has not a large following. Originally it stood for the restoration of the dynasty. As a political party it is now in disrepute throughout practically the whole of China because of its subordination to Japanese influences. Its few known members, such as "Little Hsu," are simply tools of Japan, directly and possibly indirectly through Chang Tso-lin, to stir up internal troubles to prevent unification. It was stated at Loyang that Sun Yat-sen, who continues to have some personal following, might join forces with "Little Hsu" against Wu in the event of a renewed attack by Chang Tso-lin.

(*d*) *The Fengtien Party*, Chang Tso-lin, stands for the restoration of the Manchu dynasty, so Loyang says. At Loyang they claim that if ever Chang gets into Peking he will set up the "boy emperor" one day, strangle him the next, and then declare himself the founder of the Chang dynasty. At Loyang they are evidently very much worried that Chang recently got 22 carloads of munitions of war, including 100,000 rifles, 300 machine guns, besides ammunition, field artillery, and two aeroplanes.

The *Fengtien Party* and *Kuomintang* both standing for autocracy, the former for the restoration of the dynasty, the latter for out-and-out autocracy without any particular name, it is easy to understand how it was, last spring, that Sun, then leader of Kuomintang, could ally himself with Chang, and attempt to attack the northern Provinces in the rear while Wu was busy with Chang. At Loyang they firmly believe that Chang will attack in the spring, and that he will be much stronger than he was in the spring of 1922; that he is burning to wipe out the beating Wu gave him last spring. They say that Chang has over 100 Japanese Army officers in his armies wearing Chinese uniforms, and they think that Japan wishes to recover lost prestige by having Chang win the next time; incidentally it might be mentioned that at Loyang they say that there are a great number of Japenese Army officers in China, posing as civilians, nominally in trade and commerce, and learning the country and the Chinese tongue.

ECUADOR.

LABOR CONDITIONS.

4 January, 1923.

For some time it has been known that attempts were being made by an international band of conspirators to foment revolutions and labor troubles throughout South America. Details are now at hand in regard to the results of their work in Ecuador, which ended with such disastrous consequences the 15th of November, 1922.

The laboring classes in Ecuador during the past few months have become greatly dissatisfied due to the lowering of the exchange and no corresponding increase in wages. For that reason, about the 5th of November, a strike started amongst the railroad employees. It rapidly extended itself to practically all the laboring element in the city of Guayaquil and was participated in to such an extent that by the 12th of November all the public utilities of the city, such as water works, tram cars, telephones, electric light and gas companies, etc., had ceased to function.

On the 15th of November a crowd of laboring people and their sympathizers, variously estimated between twenty and thirty thousand, gathered in the public square for the purpose of demonstration and listening to speeches by their leaders. The crowd, due undoubtedly to paid agitators, became more and more unruly and finally transformed itself into a mob and started toward the barracks of the town, where some disturbers of the public peace who had been arrested

for disorderly conduct were incarcerated. A skirmish soon occurred between the numerous troops that had been brought into the city and the mob. In the course of the fighting about 500 people, men, women, and children, were killed and about 2,000 wounded. The outbreaks of the mob continued in the city for about three days, during which Guayaquil passed through practically a reign of terror, there being numerous shops looted, robberies committed, etc. Finally the authorities succeeded in getting control of the situation, and the abortive attempt at revolution may be said to have come to an end.

The supposed leader of the revolution, Señor Enrique Baquerizo Moreno, was arrested immediately as soon as the fighting in the streets became general and has since been deported, together with José Vicente Trujillo and Carlos Puig V., lawyers of Guayaquil, who have been acting extensively as paid attorneys of the laboring element.

The following facts in regard to Señor Baquerizo are interesting: The first time he was deported was in 1882, at which time he was 18 years of age. In the year 1895 he was deported once more to the United States; in 1896 again to Guatemala; and in 1898 again to Peru. In 1907 he was deported to Panama. Up to the time of his present deportation he was a senator and one of the leaders of the opposing party.

GERMANY.

NAVAL STRATEGY IN THE WORLD WAR.

12 December, 1922.

It has been developed that a considerable number of lectures and discussions have been held in the Admiralty regarding the German naval strategy during the war. As shown by the official publications of the Admiralty, the commander in chief of the fleet, Admiral Ingenohl, had been severely criticized for his lack of initiative on numerous occasions in the early part of the war, and very particularly for his overcautious retreat on the occasion of the German bombardment of Scarborough and Whitby on 15 September, 1914.

Although Admiral Ingenohl, the commander in chief, had been severely criticized, it developed later that the German Admiralty more or less fixed the blame for this attitude on the fleet commander and his own staff. The admiral was apparently influenced by his torpedo officer, who urged excessive caution in all operations against the British fleet, and appeared to be particularly overcautious in regard to submarine and torpedo attacks. From the best criticism

in the Admiralty, it appears that this attitude was due to the fact that the staff of Admiral Ingenohl had served in this capacity for a period of at least five years without change and that the officers had not had sufficient line and executive duty to permit them to advise the commander in chief in the capacity of experts.

It is hoped that the translation of the German official publications on the war at sea may be made at an early date and made available for study of the naval service in the Naval War College in particular, as the Germans undoubtedly lost their best opportunities for winning the war by their overcaution, as exemplified in this particular engagement.

GREECE.

ARTILLERY EQUIPMENT AND REORGANIZATION.

December, 1922.

According to the Greek general staff, the following artillery is now in use in the Army:

	Pieces.
Mountain artillery:	
12 batteries of 75-mm. Schneider-Danglis	48
25 batteries of 65-mm. Schneider-Canet	100
9 batteries, model not known	36
Total (46 batteries)	184
Field artillery:	
First regiment, 3 batteries 75-mm. Krupp	12
Second regiment—	
3 batteries 75-mm. Schneider-Canet	12
3 batteries 75-mm. Krupp	12
Third regiment, 6 batteries 75-mm. Schneider-Canet	24
Fourth regiment, 6 batteries 77-mm. Schneider-Canet	24
With V corps, 1 battery 75-mm. Krupp	4
With cavalry division, 1 battery 75-mm. Schneider-Canet	4
Total (23 batteries)	92
Heavy artillery:	
First heavy regiment, 6 batteries 6-inch English howitzers	18
Second heavy regiment—	
3 batteries 150-mm. Skoda howitzers	12
2 batteries 105-mm. Skoda howitzers	8
2 batteries 120 long, guns	8
Total (13 batteries)	46

While the above statement has not been accurately checked, it is believed to be substantially correct. A slight difference may later be found in the question of model in the field and mountain category.

The work of reorganizing the artillery in the army of Thrace is now about complete. The new Minister of War, General Pangalos,

has given to the work of reconstruction of the army a special impulse for the reason that he expects in a few days to personally take the command of it. The present aim of the Greek staff is to complete the organization of the second, third, and fourth corps, which compose the army of Trace, as soon as possible. As far as the artillery is concerned, its reorganization is effected in recent orders and is as follows:

Heavy artillery.—The first regiment of heavy artillery is to consist of the 6-inch English organized into two groups of three batteries each, each battery having three guns. The second regiment will consist of one group of three batteries of four guns each of 150-mm. Skoda howitzers, which were brought out of the storage of captured material; one group of two batteries of four guns each of 105-mm. Skoda howitzers; one group of two batteries of four guns each of 120-mm. French guns. All of the heavy artillery of the Greek Army is thus assigned to the army of Thrace.

Field artillery.—The field artillery is as before all assigned as corps artillery. The regimental organization has been reduced to six batteries per regiment, in place of nine as in the past. The third and fourth regiments, which are assigned to the third and fourth corps, are already complete. The second corps had only two batteries of 75's, but four new one are being created for it, principally from the artillery of the first corps, which is leaving Athens for Saloniki to-day. In forming that regiment, which will be called the "second regiment," the nucleus of the personnel for three batteries will be given by the first corps and completed by recruits from the class of 1923.

One battery is to be organized by the commander of the army of Thrace, the nucleus being given by the two batteries which are already at Saloniki. Thus in a few days the three corps will each have as corps artillery, one regiment of 75-mm. field guns of six batteries each. The first regiment belonging to the first corps will have only three batteries and in them there will exist only a bare nucleus for the present. The fifth corps in Epirus has one battery of 75-mm. Krupp guns and will not be increased.

The material for the increase in field guns has been obtained chiefly by bringing out of storage and putting into service a number of Krupp guns which were captured from the Bulgarians and Turks. The chief of artillery states that these Krupp guns are in as good, if not better, than their old 75 French pieces, but the question of ammunition for them is not assured. They have on hand enough to give the batteries a limited amount and they hope later to obtain reserve stock from the French or Czecho-Slovaks.

The question of animals for the new batteries is even more pinched than that of ammunition. Horses are being drawn from every pos-

sible unit, but even with the greatest economies the batteries will not be completely equipped and will have to get along for the present as best they can.

Mountain artillery.—In the plan of reorganization General Pangalos directed that all of the divisions in the army of Thrace be immediately supplied with the required amount of mountain artillery, namely, two groups of two batteries each. To effect this the first corps was ordered to provide the skeleton personnel for six batteries, to which were added drafts from the 1923 class. The commander of the army in Thrace was directed to similarly construct three batteries from the personnel of the mountain batteries in his army. This work is now about completed. The necessary guns were secured mostly from bringing into service captured guns which had been in storage. Thus according to the Greek staff, all of the divisions in the Greek Army will in a few days have four batteries of mountain artillery each, with the exception of the divisions in the first corps, which will only have six batteries for the four divisions and thus will be in a decidedly stripped condition.

GREECE.

MOBILIZED STRENGTH OF ARMY.

14 December, 1922.

From the operations carried on in Asia Minor during the past three years it was evident that the Greek Army could mobilize for offensive operations about 500,000 men, counting all categories. At that time there were available for operations the following men:

First-line troops (men from 20 to 41)	370,000
Territorials (men from 41 to 51)	75,000
Untrained troops (men from 18 to 19)	63,000
Total	508,000

The present strength available for mobilization under the same circumstances would be as follows:

First-line troops	354,000
Territorials	75,000
Untrained	31,000
Total	460,000

It is to be noted that the class of 1923 has already been trained.

It is believed that on a defensive campaign about ten per cent could be added to the totals of the men in the category of first-line troops, for the reason that in such a case fewer exemptions would be given to the men in the older classes.

Due to the great loss of material in Asia Minor and the difficulty the Greeks are having in replacing it, it is not believed that the Greeks could equip for field service over 250,000 men, and even this number would call for their being armed with a lot of obsolete weapons.

GREECE.

RELATIONS WITH BRITISH GOVERNMENT.

6 December, 1922.

The incidents surrounding the departure of Mr. Lindley, the British minister in Athens, are of peculiar interest, and substantially as follows:

For reasons to be explained later Mr. Lindley took a very strong stand against the intention of the revolutionary Government to execute the leaders of the ex-royalist régime who were charged with being guilty of creating the disaster which recently befell Greece in Asia Minor. The revolutionary committee did not receive very kindly the overtures of Mr. Lindley, first, for the reason that they felt very strongly against the prisoners; and, secondly, because they likewise felt that England herself was a good deal to blame in creating the situation which permitted the catastrophe, and therefore resented further interference. Mr. Lindley was constantly besieged by friends and relatives of the accused, urging him to intercede in their behalf. They felt no hesitancy in asking this of him, for the reason that they could say to him, that the prisoners were in their present dilemma due to the fact that their policy had been greatly influenced by him. When the trial actually commenced Mr. Lindley became more insistent and threatening in his attitude toward the revolutionary committee, followed by stating to them in a formal letter written about the 16th of November that England would not permit the execution of the prisoners and threatening them with some sort of intervention in case they attempted it. This note brought on a temporary crisis in the Government, for the reason that no one wished to reply to the note and all felt incensed over the attitude taken by the British minister. The news about the note got out and almost caused public disturbances. As the news was circulated it was given all sorts of meanings, which caused the people who before had not been insistent upon the execution to demand of the revolutionary committee to carry out with a free hand the order of the court so as to show the independence of the Greek nation.

The situation was temporarily calmed down by the statement from Mr. Lindley that he would ask his Government to withdraw the note. It was believed, however, that the note was written almost entirely

on his own initiative. Mr. Lindley, however, let the revolutionary committee understand clearly his attitude regarding the execution of the prisoners. Previous to this note the revolutionary committee had given out secretly to several of the other ministers who were counseling moderation that for political reasons they were compelled to go ahead with the trial, but that in the end a way would be found to avoid their actual execution. After the incident of the note the revolutionary committee was threatened by delegations from the army and navy that if they weakened they themselves would take matters in hand and proceed with the execution. The day before the trial was to finish it was seen clearly that the revolutionary committee was determined to take matters into its own hands regarding the execution and re-formed the Government so that its members took all of the prominent posts.

The impression was quite current that the action of Mr. Lindley was almost entirely personal and carried with it a good deal of bluff. The immediate execution of the prisoners without giving any consideration to the advice of the foreign diplomats appeared particularly as a slap at Mr. Lindley. He thereupon immediately informed them that diplomatic relations were broken and left the same evening. None of the other members of the legation personnel have left or have given out anything regarding their status in Athens. How far the incident will be actually carried is still in doubt. The local members of the British colony try to give out the impression that the rupture will be complete. On the other hand, the Greeks give out the information that the action is mostly personal and that it will not greatly upset the relations with this country and England. There is a great deal in support of the latter argument. From the discussion in the British Parliament one is led to believe that such action as the British Government has taken was mostly in the nature of backing up its minister to maintain his prestige.

It would appear that the British press and public have not approved of the action taken; in fact, it has quite severely criticized it. It is noted that Mr. Bonar Law evaded the point when asked whether the Greek minister would be sent from London, and was not very ardent in his defense of the action and allowed it to be understood that it was greatly due to the initiative of the minister. The telegrams received by Mr. Lindley from his Government would indicate that they consisted in an acquiescence to his propositions rather than instructions directing his actions. Again, the events seem to have caused no serious change in the relations between Lord Curzon and Venizelos at the Peace Conference. It would seem that there is no doubt that the British Government felt the necessity of doing something to back up its minister and that the action taken will no

doubt have a good effect, but it is not believed that it will take on all the character which some wish to attribute to it.

There are a lot of events in Mr. Lindley's career in Athens which may throw some light on the situation. Mr. Lindley found himself in a very peculiar situation with the prisoners, due to his attitude toward them while in power. Mr. Lindley followed Lord Granville, who had been through the awkward days of the return of King Constantine, during which he had to maintain an attitude of ignoring the presence of the royal family and having only strictly official relations with any of the members of the royalist Government. Up to the time of the departure of Lord Granville the English officials had carefully refrained from any overtures either in a political or social way toward any members of the royalist Government or even those out of the Government who were known to be rank royalists in their sympathies. This same attitude was being followed by all of the other allied representatives in Athens. Mr. Lindley's arrival came at a time when Greece was making a great effort to obtain English recognition, and his arrival was heralded as the opening gun toward that recognition.

He not only allowed that impression to exist, but immediately changed the policy of the legation regarding their relation with the royalist régime. He commenced a series of entertainments to which well-known royalist families were invited and eventually gave a reception to which even members of the royalist Government were invited. All of this greatly astonished the other allied representatives and was naturally taken by everyone to indicate a change of policy and the prospective recognition of the King. The members of the royalist Government were of course overjoyed at these overtures and their pessimistic feeling regarding the recognition changed to that of decided optimism. At the same time two young Englishmen named Mr. Drummond-Smith and Capt. Stuart Hays arrived in a private capacity; however, everyone knew that they were really closely related to the British Government. These two men circulated freely in court circles and told all the members of the court that they were there to work for recognition. Everyone was quite convinced that the English legation was for recognition; in fact, Mr. Lindley approached our representative suggesting that we break the ice on that question so as to give them an excuse for following suit.

Opinion is that this action on the part of Mr. Lindley and other members of his entourage was chiefly responsible for the many otherwise inexplicable decisions taken by the Government regarding the Asia Minor campaign, all of which were made with the hope of being the final bait for causing England to leave the allied bloc and come out with recognition. All of the campaigns in Asia Minor in the summer of 1921 were clearly made for the purpose of

convincing England that she could safely and openly espouse the Greek cause. Thus it is easy to see why Mr. Lindley found himself in such an embarrassing position regarding the royalist prisoners. He could not help but feel that a good deal of the burden for their being in that position fell on his own shoulders. It is well known that the royalist Government came to power with the intention of abandoning the Asia Minor project, but that it committed itself to a continuation, and even extension, of that project through the misleading encouragement given by British statesmen.

The impression created in Athens by Mr. Lindley did not, however, always correspond with the attitude of the English Government in London. One was convinced that the atmosphere created in Athens by Mr. Lindley was due in a great part to his own initiative. In that way one can not help but be convinced that he is guilty of misleading the Greeks into false situations. As a result of all this, when the disaster came in Asia Minor public opinion placed the blame as much, if not more, on the shoulders of the British than on the royalist Government, and British prestige suffered a severe shock. Of course the people of Greece could not punish the British Government, but they could punish their own Government. Knowing all this, it is easy to see why Mr. Lindley felt impelled to defend the royalist ministers and could not remain after their execution.

It is therefore believed that there were several underlying reasons for the British Government "permitting Mr. Lindley to withdraw," the first being the necessity for the maintenance of British prestige by backing up its minister in his position before the Government of a smaller power; the second being that it gave to the new British Government a chance to free itself from the obligations toward Greece created by the past Government of England; and the third being that it gave an opportunity to relieve Mr. Lindley from a post where he had made no success as a diplomat.

In its present position the Bonar Law Government is now quite free to act as it wishes regarding the Orient question.

KOREA.

GENERAL CONDITIONS.

2 January, 1923.

NOTE.—Extracts from the report of an official observer.

One can not fail to realize the difficult problems of the Japanese in Korea when he sees the Korean in his native habitat. Lazy, slovenly, without ambition or ideas of sanitation, devoid of even a desire

for progress, and imbued only with the pride of an ancient race, the Koreans seem as but a stagnant backwater in the sea of progress of the twentieth century. Clothed in white, with a zero temperature, the men with tiny gauze hats covering their "topknots," balloon trousers, and straw sandals, and the women clothed in a lower garment, half skirt half trousers, and entirely nondescript, and an upper garment like a very short close-fitting jacket, and frequently between the two a "holiday" of several inches, exposing the bare flesh to the chilling breezes, they look and seem to be the acme of ineffectualness and impracticability.

Their small towns and villages are usually located at the bottom of a valley, and the individual houses as well as the communities are almost wholly devoid of human comforts. The usual dwelling is a small one-room mud hut with a small yard inclosed by a mud wall. The room, almost without furniture of any description, is dark, unventilated, and evil smelling, and is used chiefly as a family sleeping place, where the family huddles together without beds or bedding, with no distinction as to sex. In the yard are a number of earthenware crocks in which food, clothing, etc., are stowed, and there also the cooking is done, the cows, pigs, etc., are tethered, and the many activities of a home are carried on. This applies in almost equal degree to the homes of all classes. All alike are almost devoid of comforts. No light, nor water, nor toilet arrangements. Nothing to mitigate the bleakness of colorless days and nights except the heat from a flue that, opening outside, extends beneath the dirt floor and thus, to a certain degree, heats the sleeping chamber. Streets are narrow and crooked, and often the filth seems to be the accumulation of ages. Small wonder that often when the price can be acquired the adults stupefy themselves with some form of alcoholic drink.

Since Japan annexed Korea in 1910 there have been three governors general. The first two, covering a period of approximately 10 years, were generals on the active list of the Japanese Army. They ruled with a rod of iron, and without doubt Koreans were often subject to severe mistreatment and were looked upon as almost without rights. This régime culminated in 1920 in severe rioting and rather serious uprisings.

The present governor general is Admiral Baron M. Saito, and in many essentials he has reversed the policies of his predecessors. The civil side of the government is emphasized. The admiral wears civilian clothes entirely, as do the other officials. Palace guards have been abolished and many functions formerly performed by the army have been turned over to civilians, either Japanese or Koreans. The governor general has particularly interested himself in preventing maltreatment of Koreans by Japanese and in seeing punishment

awarded to Japanese found guilty of such treatment. On all sides in Korea only praise was heard for Admiral Saito and his policies.

Unquestionably, the Japanese have improved Korea in many ways. Schools have been established, roads and bridges built, new irrigation projects undertaken, flood protection extended, extensive reforestation carried out, telegraphs and telephones installed, streets widened and straightened, etc. Many evidences of the foregoing were seen even in the most remote rural districts visited.

About half of the provinces in Korea have Japanese governors with Korean vice governors. In some towns the government includes a few Japanese, in others, Koreans only, except in all towns of any size a few Japanese policemen are present. I heard only favorable reports of the relations between the police and natives at present, though such was far from true a few years ago.

One very interesting feature is the apparent enormous extension of the Christian influence in Korea, and apparently the Japanese officials are no longer opposed to this. The number of Christian Koreans is now estimated to be about 350,000, and the number of children attending Sunday schools is enormous, and this will necessarily have a big influence on the next generation. I asked one Japanese official what he considered the religion of Korea. He replied, "The Christian religion more nearly than any other."

The influence of Japan in Korea is much more apparent in physical features than in the persons of the natives, which is only natural considering how much more quickly material things can be built than personal character can be changed. The present policy, if consistently followed and developed, will no doubt produce results in the future very beneficial to both Japan and Korea.

RUSSIA.

OBSERVATIONS IN ODESSA.

28 December, 1922.

NOTE.—The following is a report of observations made by the commanding officer of a destroyer in connection with a trip to Odessa in November last. Although this was the first visit made by this officer to Odessa, his observations are of considerable interest. This vessel is the last destroyer to have visited Russia. It appears doubtful if there will be any more American destroyers to visit Russia in the near future.

Conditions in general.—Not so bad as I had expected.

Clothes.—Second hand. People are not so ragged as I had expected to see them.

Comparison with pre-war Russia.—Russia before the war was probably 50 years behind western Europe in industrial progress and

advancement in modern civilization. Odessa does not give the impression of being behind more than that.

Sanitation.—Clean.

Poverty.—A few persons in rags. I estimate about 30 per cent of the adults to be undernourished.

People—Characteristics.—Greater variety of physiognomy than I expected to see. There is hardly a type-face characteristic of the place. Kindly dispositions. Few vicious faces, or faces indicating the qualities associated with the idea of Bolshevism as it is understood in the United States.

Mien of the people.—Principal quality shown in the mien of the people is resignation. It is impossible to tell how much of this is due to unintelligence and how much to loss of hope.

Activity.—The streets are fairly well filled with people going about, not aimlessly, but as if they had something definite to do. There is little loafing in groups.

Diversion.—On Sunday afternoon great crowds promenaded on the streets. I saw one soccer game in a large square or court.

Shops.—Stock small and of medium or low grade. Largely second-hand goods. There is considerable of fruits and an abundance of flowers. There is plenty of fresh meat.

Attitude of authorities.—Friendly, but accompanied by a persistent coldness (assumed dignity), which, in my opinion, is the result of inexperience in the exercise of authority and of a desire to impress one with the fact that they have the power. In addition one always gets the impression that the authorities are not yet schooled in businesslike methods of doing things. Delays are due more to ignorance and incompetency and lack of organization in the chain of command than to animosity toward us. There are much too many officials and clerks.

Attitude of the people.—Smiles on our part were always reciprocated generally with sincerity.

Military.—Soldiers are on duty around the docks and in many other places. Apparently soldiers are necessary to keep the business of the government going. Jews seem to predominate in all military affairs.

Docks and railroads.—Docks are clean and in good condition. Rails in good condition and defective ties being replaced.

Delay.—Much delay is the result of incapacity and inexperience in administrative matters.

Chief of the foreign office, Mr. Kosura.—Kosura realizes the necessity for the economic rehabilitation of Russia. I think that he is smart enough to see that any political régime for his country must be such as will permit early economic recovery. He also realizes

that Russia has a vital interest in the Bosporus and the Dardanelles. He yearns for recognition by the United States.

Marine control.—The marine control, or harbor-master organization, effect delay in order that they may impress you with the fact that they have power.

Spies.—The longer we stayed the more people we found who wanted to be friendly and who were willing to tell us that they were not in sympathy with the present government. I don't know whether they were honest people or spies. I recommend being wary of them and not expressing any opinions one way or the other when visiting there.

Counterrevolution.—In my opinion, there is no great probability of a counterrevolution. Whatever may be the theory of the communists, it is certain that their business is assuming to a considerable extent the aspect of private enterprise.

A prophecy.—Russia's salvation will come, and it will come about through gradual evolution from the present régime. A step-by-step recognition of private enterprise will create initiative anew. The brains of the country will gradually assert itself. The speed with which the evolution will come about will be in proportion to the foreign capital that is put into the country and the guaranties that the soviet government can give to the investors of that capital.

Caution.—Destroyer captains should be on their guard to give reasons for our visits to Russian ports. No matter what reasons we may give for visiting Russian ports in the future, the break with the American relief administration means that we deal directly with the soviet authorities, and the effect is a measure of recognition. If the Bolshevists can not carry the recognition further, they may confront us with the accusation that we are in their ports merely as spies. We should be fortunate if they choose to believe that our continual presence in their ports will result in good to them. The chief of foreign affairs, Kosura, at Odessa, is smart. Apparently he wants to obtain our friendship with a view to hastening the economic rehabilitation of his country.

RUSSIA.

STRENGTH OF ARMY.

27 January, 1923.

As to the present total strength of the Russian Army, it has been generally determined by the intelligence agencies of practically all interested powers as between 800,000 to 825,000 men. These figures are for ration strength and should be reduced to 600,000 to 620,000

for combatant strength and to 300,000 to 310,000 for rifle and saber strength. In these figures are included 57 infantry and 15 cavalry divisions, 4 independent cavalry brigades, and auxiliary arms and services for the tactical armies and army corps. Up to December, 1922, Russia's Army was disposed as follows, on her critical fronts, and in potential reserve for these fronts:

V district (Lithuanian-Polish front): 7 infantry and 1 cavalry division with a total ration strength of 57,000.

IX district (Polish-Rumanian front): 13 infantry and 3 cavalry divisions and 1 cavalry brigade, with a total ration strength of 118,000 men.

XI district (Caucasus and north Caucasus): 12 infantry and 4 cavalry divisions and 2 cavalry brigades, with a total ration strength of 119,000 men.

It is thus seen that on Russian fronts where there is the greatest possibility of operations there are 32 infantry, and (the equivalent of) 10 cavalry divisions out of a total of 57 and 17, respectively. Other forces, totaling 6 infantry divisions, located east of and adjacent to the V and IX military districts might be regarded as a possible reserve for western-front operations with a ration strength of 40,000, while in the VII district (Volga region) are 3 infantry divisions and 1 cavalry brigade which might be considered as available for the reenforcement of the Caucasus front with a ration strength of 23,000 men. The remaining Russian divisions are distributed on the northwest, southeast, and far eastern fronts, and in the interior, and probably could not, under existing conditions, be made available for early operations on other fronts.

Assuming that Russia's intentions were to be directed against any one of her three critical fronts and that the present force on the remainder could be reduced by one-half if charged with a defensive mission, Russia's probable initial maximum effort would be:

(*a*) Against Poland, 25 infantry and 5 cavalry divisions.
(*b*) Against Rumania, 22 infantry and 4 cavalry divisions.
(*c*) From the Caucasus, 27 infantry and 8 cavalry divisions.

If a campaign involving both Rumania and Poland were considered, Russia could probably count for early operations on 32 infantry and 7 cavalry divisions.

Existing peace strength (in divisions) of the powers to whom Russian military activity on the west front would be of interest is:

	Infantry.	Cavalry.
Poland	30	5
Rumania	26	6
Total	56	11

If Russia contemplates action against both Rumania and Poland, and assuming that these powers could safely employ one-half to two-thirds of their available armies against Russia, the latter would encounter with 32 infantry and 7 cavalry divisions an opposing force of 28 to 37 infantry and 5 to 8 cavalry divisions.

It is estimated that the battle efficiency of the Polish forces, and probably of the Rumanian, is generally superior to that of the Russian Army; the former are at least much better situated with respect to equipment, transportation and ability to procure munitions adequate for major operations; hence Russia, even if her transportation, food, and munition situation were favorable, could hope to meet with slight success in a war with either Poland or Rumania or a combination of the two.

In the Caucasus, Russia possesses greater freedom of military action due to the absence of potential enemies of any considerable strength on her front or flanks; her present force in that region is much greater than would appear necessary for the defense of her frontier, and considering that she can increase that force by 75 per cent without materially weakening her western front, and by 100 per cent by a reduction of only 15 per cent on her western front, it would appear from a military standpoint that there is greater probability of the employment of Russian forces from the Caucasus than elsewhere.

The foregoing is based on the assumption that Russia is in a position to provide munitions sufficient for major operations, and transportation for the necessary concentrations as well as for the maintenance of her armies in campaign. Available information indicates that none of these assumptions are well founded.

SPAIN.

NAVAL BUILDING PROGRAM.

3 January, 1923.

Information has been received that the firms of Vickers and Barr & Stroud are now working together in Spain. It is understood that three battleships, a number of cruisers, and somewhat over twenty submarines are to be built there in the very near future by the engineers and constructors of Vickers. Barr & Stroud has been bidding on rangefinders; it is understood that they have offered the coast artillery a rangefinder of 42 meters base, self-contained, on the coincidence principle. This proposal of Barr & Stroud was rejected by the Spanish Government.

It is understood that Vickers is constructing dockyards at Ferrol and also at Vigo for the construction of these battleships and sub-

marines. It is understood that the armament will be entirely British and also that Vickers has even offered the British fire control. Informant states further that he had offered to the Spanish Government the German fire-control system. In this connection he was competing with Vickers and stated that he had won out in this competition. It would appear therefore that the Spanish Navy is to be equipped with the German fire-control system; probably manufactured in Holland. It was further understood that the Spanish Government had ordered from Carl Zeiss through the latter's subsidiary concern in Holland, 20 submarine periscopes for the Spanish submarines now under construction.

Informant stated that while in Madrid he had been approached by Vickers' engineers with the idea of a combination between Siemens-Halske and a British syndicate (Coventry Syndicate) for the purpose of manufacturing and selling German fire control to foreign navies. The offer was refused by the German concern. It was the opinion of informant that Great Britain was doing her utmost to build up the Spanish Army and Navy. He stated the Spanish Government was appropriating large sums of money for the rehabilitation of both branches of the service, that the Spanish Army was being equipped with British uniforms, and that all possible technical aid was being given the Spanish Navy through the firms of Vickers and Barr & Stroud.

Informant stated further that the idea of this was England's attempt to recreate a balance of power on the Continent against France and that England would devote every effort to the building up of the Spanish Army and Navy with this end in view.

Informant stated that he had found considerable feeling in Spain against France, and that a number of instances arising from the Spanish campaign in Morocco had caused Spanish feeling to be very bitter against France. Informant stated further that a big Spanish gas factory had been established just north of Madrid under the control of the Spanish Government; the technical employees of this plant were practically all German chemical engineers who had been brought into Spain for the purpose of developing this particular plant.

SPAIN.

STRATEGIC CONTROL OF THE STRAITS OF MOROCCO.

11 December, 1922.

In general it may be said that the acts of the Sultan seem to be effectively controlled by the French. His influence in Spanish Morocco has never been very great; the natives of this section have never

submitted with consistency to distant authority, preferring the authority of their own chiefs and leaders. This statement applies to a surprising extent even to religious matters. The authority of the Sultan is exercised in the Spanish zone by a jalifa, who, having his residence at Tetuan, is naturally amenable to Spanish authority. An attempt to assert the principle of the direct authority of the Sultan throughout all Morocco was recently made by the French. It was energetically denied by the Spanish authorities, who insisted that his authority would have to be exercised through the jalifa. In the western part of the Spanish zone the influence of the famous Raisuni (or Raisuli) is probably at least as important as that of the jalifa.

In this connection the Spanish zone is of the greatest importance since possession of Ceuta by any nation offers the possibility of a challenge by that nation for the control of the Straits. Suitable development of Ceuta would promise a supervision of shipping equal to that afforded the British by Gibraltar. As long as the Spanish zone remains in Spanish hands and Tangier remains under international control—that is, as long as the present situation continues—the control of the Straits by the British is not to be disputed by any other nation than Spain, and a serious attempt at control by Spain is highly improbable.

TURKEY.

EQUIPMENT AND TROOPS OF NATIONALIST ARMY.

9 January, 1923.

A few days ago an excellent film was shown in one of the local cinema houses, showing the nationalist army in action in Anatolia. Doubtless the best troops were picked for this picture. In any event, the general effect was to give one a very good impression of the army. The troops were shown in various positions; first, a division advancing along the road in column. The staff was all mounted and rode at the head of the column; the infantry followed in columns of squads and was followed in turn by the artillery. Of course, in a picture it is not always possible to make a close examination; however, the general appearance of this division was very favorable. The men marched well, there was apparently no straggling or men stringing out at the end of the column, uniforms looked neat and clean, and officers and noncommissioned officers handled their men in excellent shape. Heavy machine guns were in evidence and were carried on small carts drawn by mules. As to the number of artillery pieces and machine guns, it is difficult to state, because

the same troops passed several times in the same scene, perhaps with a view to making the number of men and guns appear much larger than it really was.

MUNITIONS.

British intelligence officers who saw the film stated that the Turks had two batteries of British 18 lbs. (late models received from Russia), some German 7.7-mm. guns and 10.5-mm. howitzers. Apparently they also had with each battalion four heavy machine guns, sledge mount, and, as stated above, drawn by mules. The British officers also stated that the divisions shown in the picture were the eighteenth and sixty-first.

TRAINING.

One of the headlines stated that Gen. Nourredine Pasha would review his cavalry troops. The picture then showed the general inspecting his troops and at the same time riding around six artillery pieces which were about 3-inch caliber. The review was well carried out and gave the impression of well-trained and efficient cavalrymen. The best riders were shown doing some rather difficult work in going up and down steep hills.

The infantry was shown in action as it went over the top to take the Greek trenches. This was undoubtedly faked; however, in the picture the men dashed forward with fixed bayonets and the Greeks met them, holding up their hands in surrender and crying "Camarade." An infantry line advancing over open ground often went forward as in our own army, by rushes of small detachments from the right or left. The machine gunners in action were apparently rapid and most efficient. They used what appeared to be the old type of heavy Maxim gun, and seemed to have a knack of dismounting the gun, mounting it again in a new place, and begin firing in an astonishingly short space of time.

The action of all concerned in the artillery was also very good. The gunners went into action quickly and easily and appeared to be quite familiar with their duties. Only one squad was shown doing this, however, so it is no indication that all of the artillery gunners and section chiefs could do so well.

TRANSPORT.

One scene showed about 10 large automobile trucks, covered, used for transportation purposes. These trucks were in perfect condition and moved out in single file at the word of command. They were not American cars.

CLOTHING.

The clothing and personal equipment of the men was in excellent shape except that the footwear was badly worn.

EQUIPAGE.

It is of interest to note that British intelligence officers who studied this picture were greatly surprised to find nationalist troops so well equipped.

TURKEY.

MORALE OF TURKISH ARMY.

27 December, 1922.

Foreign intelligence officers in Constantinople agree that the morale of the Turkish Army has been somewhat lowered by their inactivity during the past three months. Transportation facilities have been lacking, and as a consequence the troops have not been well fed, even according to Turkish standards. They also lack sufficient clothing and shelter. They have not been paid since October. Many of them would like to go home to prepare their lands for the spring planting.

There is also some discontent among the officers, but it is based on what they consider to be lack of appreciation of their services, and on political favoritism, rather than on their inactivity. The army is decidedly in politics in Turkey.

It is generally believed, however, that the discontent in the Turkish Army does not greatly worry the nationalist authorities. "Men do not count in Turkey," as one French officer put it. Nor should the lowered morale of the troops be taken too seriously, for the Turks have great powers of recuperation, and if it became necessary to move them forward against the allied troops it is probable that they would go almost as willingly as they would have gone in October.

LATIN AMERICA.

THE PAN AMERICAN CONFERENCE.

31 January, 1923.

The trend of the situation is disclosed by attitude of the important powers toward the major issues, as follows:

LIMITATION OF ARMAMENT.

The Chilean proposal to limit armament is the outgrowth of a policy of expediency. She aspires to military and naval supremacy to support her desire to possess the hegemony of South America. The limitations proposal is an indication of Chile's alarm over the

growing power of Argentina and Brazil. Such a course is calculated to neutralize the effect of her political isolation and to increase her prestige by propitiating the United States.

The rapprochement between Argentina and Chile, born of common pro-Germanism during the World War, was nullified when Argentina grew suspicious of the very considerable additions made to Chile's naval strength. Later, Argentina evidenced a desire to cultivate traditional enemies of Chile, Peru, and Bolivia, based on a desire for a Pacific outlet for northern Argentina, and perhaps upon the realization that Chile's isolation would make her a doubtful friend.

For many years Chile and Brazil were very close, meeting on the common ground of an alliance against Argentina, antagonism toward whom was intensified by acute boundary disputes. The Chilean dispute has been settled; and neither Argentina nor Brazil seems disposed to press their difference, or their competition for influence in Paraguay to the point of a serious quarrel. Brazil has evidenced a desire for more or less complete international independence in South America, has entered on an ambitious naval program, has evidenced a desire for American friendship, and has met Chile's recent advances and proposals as regards naval limitation, with a decided coolness. All of which indicates that Brazil no longer chooses to be regarded as an associate of Chile either as against Argentina or others.

The original draft of the Chilean proposal calling for limitation of armament "in equal proportion," which brought no comment from Argentina, but which met immediate obstruction on the part of Brazil, was changed in the final draft to read "on a just and practicable basis" at the suggestion of the United States.

Brazil's subsequent invitation to Chile and to Argentina to meet in preliminary conference to clear up the point of view as to a "just and practicable basis" of armament limitation met with immediate and eager response by Chile and with suspicion and refusal by Argentina. Argentina's refusal reveals her position as opposing "partial reunions concerning questions which are intended for general discussion," a policy of independence, and a widening of the breach between herself and Brazil over the latter's naval policy. Argentina is particularly resentful over the choice of an American naval mission.

THE PROPOSAL FOR A CLOSER POLITICAL ASSOCIATION OF AMERICAN NATIONS.

Considerable interest and suspicion has been aroused in Chile and Argentina in the effort of Uruguay to secure declaration of principles regarding American solidarity as a part of the program of

the conference. Her desire for a league of American nations is interpreted by the A B C countries generally as a play for diplomatic recognition to offset the hampered position she occupies as a small buffer State. A league based upon complete equality of all the nations represented, under the hegemony of the United States, is considered to her advantage. The general drift of international opinion apparently favors an amplification of the scope of the Pan American Union by adding political functions to its present exclusively.

Argentina, Brazil, and the United States have formally accepted Chile's invitation to attend the conference, and the remainder are likely to follow, excepting Peru and Mexico, who have definitely refused.

NEAR EAST.

MILITARY SITUATION IN ANATOLIA AND THRACE.

13 January, 1923.

In order to meet any crisis arising from negotiations, considerable troop movements are going on in the Near East. The Greeks still have two corps just west of the Maritza River, and are reported to have moved one division into Karaghatch, just across the river from Andrianople. This movement has been protested against by the French as violating one of the neutral zones agreed upon between the Greeks and the Allies along the west bank of the Maritza River.

The Turks are infiltrating more and more into Constantinople and eastern Thrace, and the latest information available indicates that there are 20,000 individual soldiers in Constantinople and an equal number in Thrace, including three battalions of artillery. The Turkish forces in western Anatolia are still estimated at 60,000; the 20,000 around Smyrna have been moved northward, so that there are now facing Chanak and Ismid between 50,000 and 60,000 combat infantry and between 5,000 and 6,000 cavalry. The amount of artillery with these forces is estimated at 270 light and 100 medium pieces, probably none over 6 inches in caliber and with a limited ammunition supply. There has been no change in the Allied forces around Constantinople, Ismid, and the Dardanelles, except that according to the press a brigade of British artillery recently arrived at Constantinople. A brigade of field artillery consists of about four batteries and would increase the garrison by about 500; if this was a brigade of heavy artillery the number of batteries might be less. In the case of an attack by the Turks from the Ismid front, official information is conflicting as to whether the British will withdraw from Constantinople or will stay and fight it out. Information

from British military sources, however, states as follows: That the British will hold Constantinople as long as they can and that no notice has been given British residents to leave; that the British expect no assistance in resisting the Turks; that the Ismid Peninsula can be held as long as the army is supported by the fleet; that the nationalits are believed to be bringing troops up, and the present military situation is regarded as difficult.

Unconfirmed information received about January 1 stated that revolution had broken out in Mosul and that the hangars of the British royal air force had been burned. Other information about the same date stated that 6,000 Turkish troops had left Van in the direction of Mosul. This information is also unconfirmed, but so far as the number of troops is concerned this movement is entirely possible, as the Turkish combat forces on the Caucasus and Mesopotamian fronts is about 13,000, with 3,000 more on the Syrian front.

As recently stated it is believed that the British have recently been forced to evacuate certain parts on northern Mesopotamia under pressure from Kurdish bands with more or less Turkish direction, and that to offset this the British are trying to organize as many of these Kurdish tribes as possible into a pro-British protectorate.

That the British military forces are still at Mosul, however, is likely, as the British Monthly Army List for November, 1922, shows a district headquarters still in operation at this place. The protection of Mesopotamia, or Iraq, is wholly under the British royal air force, which has in this area 3,000 officers and men with four armored-car companies, an armored train, and eight squadrons of airplanes, consisting of 18 planes each, a considerable number of which are troop-carrying machines. Besides the royal air force there are the following forces in Mesopotamia:

British Army	3,500
Indian Army	8,000
Iraq levies	5,000
Iraq Army	4,000

EUROPE.

DISCUSSION OF THE GENERAL SITUATION.

1 February, 1923.

NOTE.—Extracts from the report of a competent civilian observer who is in constant touch with the countries of western Europe.

The political situation here is very peculiar. No one exactly knows whether the movement of the French is going to be a very good thing or a very bad one. My observations over here make me think it will be a good thing. The result of the war reaction on the

politicians and the people of Europe was to create a state of anarchy. Everybody wanted to be freed from the restraints of war time; every person, every State wanted to run loose and do whatever they felt like. The result has been that Europe has become a mass of individual people and States, each one thinking only of himself and doing only what he wants himself. This has spread through all classes of society, and the politicians have played to this in order to get support, but there is now a reaction from this. The people are perfectly disgusted with the prevalent anarchy, which does not get anywhere and simply continues confusion. There is a great deal of tax evasion, and the people who pay their taxes are beginning to be furious against the people who do not pay them. Governments have played to this desire for freedom to the extent that they are not trying to enforce their tax payment, and there is slowly growing a sort of feeling of determination to end this disorder on the part of those people who have the responsibilities.

The first sign of this reaction was Mussolini in Italy. Mussolini brought in the firm hand of a dictator, and the Italian people are absolutely delighted and seem to have picked themselves up; and Italy is one of the only countries in Europe that at this moment looks like a real country. If this movement of France is another step toward discipline and order, it will be a good thing and will get behind it all those people who are looking for return to order. That is the good aspect of the French move. When the war was over, everybody shouted for liberty and self-determination. Now there are more and more people getting sick of liberty and self-determination and asking for somebody to come in and make order. What they want now is to be allowed to make their living and to establish some mode of life. Self-determination and humanitarianism make this impossible. It looks as if the next swing of the wave will be toward a very strict repression of these sentiments; just how it will come I do not know. Mussolini is the first evidence and this French move may be the second. (Europe is populated by so many different races and so many different classes of people of different ideas that if there is not a strong police of material force all these different elements begin to clash and each one tries more or less to destroy the other, and since the war there has been no authority and no discipline.) The hopeful sign is that there are a number of people one meets who want to get back to order. They are not the people that your hear in groups, they are not the politicians, and they are not the labor leaders; but they are the mass of industrial people, middle-class people, and people who carry material responsibilities.

For a description of the European situation up to the first of the year, which appears to me to be very closely in accordance with fact, see the article by Frank H. Simonds in the Review of Reviews of

January, 1923. Simonds's article is pretty correct as to the European situation in all ways up to date. During this month there appears to be a decided change in the situation. The French have moved into the Ruhr; the Conference of Lausanne has failed; the Turks are getting everything they ask for and the European nations are simply trying to get out gracefully. One of the symptoms of this is the fact that all news from Lausanne is now being slowly suppressed in the newspapers. The Russians are showing great eagerness to get mixed into European difficulties. They have offered to help the Turks and are mobilizing large forces on the Rumanian frontier. The Turks, however, show no more signs of being friendly with the Russians than any other European nation and do not seem to be inclined to accept the Russian offer of assistance. The Russians are also mobolizing troops on the north and are offering to help Germany. The Germans, however, do not want the Russian help either. Russia has been pursuing the policy of offering their assistance to anybody against the Allies, but nobody wants the Russian help. It looks as if the failure of the Lausanne Conference will be the end of all attempts to conduct all international matters by conferences and on a peaceful basis, and that the next period will be one of force. If the Allies are able to maintain a strong hand, they will dictate terms. If they show themselves weak, the small nations—all of which have animosities and desires—will begin to take matters into their own hands and will have a great deal of trouble. The new boundaries of Europe are not consistent with the economical organization. These new countries are laid out at such varyings with their true economical distribution that they have before them two alternatives—either to capture by force such territories as they need in their economic scheme or to wait 10 years or 20 years until their economic organization can be rebuilt. But as there is no money to rebuild this, it looks as if force might be tried.

The general economic situation is very bad. For the last two years the industrial and commercial people have been doing everything they can to carry on commerce under the new conditions; but they have not succeeded so far in overcoming these obstacles, and they are tired, and the question is, Will they keep up the effort? Europe has now been through four years of very hard work under almost impossible conditions. People are tired and their nerves are bad. Looking at Europe as a whole, the power of production exists, and there are great unfulfilled consumptive needs; but the new boundaries have so destroyed the methods of distribution and communication, the increased number of currencies have so complicated trading, capital is so afraid of disturbances, that the situation improves very slowly. There is an improvement since 1920, but very small. It looks as if America was willing to take part in more poli-

tics of conference, but it is too late. Politics by conference is now bankrupt, and the only solution that looks possible to me, putting together all the different points of view which I see traveling in different countries, will be a combination of big powers presenting enough material force to enforce order and insure a situation that will be definite enough to give confidence to investors and for the development of industrial enterprise.

OFFICE OF NAVAL INTELLIGENCE.
NAVY DEPARTMENT.
Washington, D. C.

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NUMBER 4—1923.

1 APRIL, 1923.

DISTRIBUTION:

In general: Bureaus of the Navy Department; all force commanders; all commanding officers of capital ships, the larger patrols, destroyers, and submarines.

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MONTHLY INFORMATION BULLETIN.

NUMBER 4—1923—1 APRIL, 1923.

FOR CONVENIENCE IN ROUTING.

Officer.	Initials.	Date received.	Date forwarded.
Captain			
Executive Officer			
First Lieutenant			
Navigation Officer			
Gunnery Officer			
Communication Officer			
Engineer Officer			
Medical Officer			
Supply Officer			
First Division Officer			
Second Division Officer			
Third Division Officer			
Fourth Division Officer			
Fifth Division Officer			
Marine Officer			

The material for the Bulletin is largely derived from service sources, and its interest and value are correspondingly dependent upon the number and character of the reports received by the Office of Naval Intelligence from our own officers. In this connection the observations of officers afloat are of great value, particularly if the reports rendered are drawn up in accordance with existing intelligence instructions.

A Specimen Harbor Chart is being issued by the Office of Naval Intelligence, to be used as a model in making reports on foreign ports. The information desired is all of great military value and is vital to the success of an operation.

While political and economic information is undoubtedly of great value, the collection of military information should come first in the intelligence work of cruising ships. This chart will be used in connection with the Title Sheet now issued.

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Attention of the service is particularly invited to the following article which appears in this month's Bulletin:

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GREAT BRITAIN.

AVIATION NOTES.

February, 1923.

The Avro *Aldershot*, which was originally designed as a long-distance bomber using the Rolls Royce " Condor " 650-horsepower engine,, was converted to carry the Napier " cub,'" 1000-horsepower engine. This plane is now known as a flying test stand, and actual performance was not attempted nor particularly desired since it was the first time the " cub " had been in the air and the plane was not designed for it.

The bomb sight to be used on this plane is being guarded with great secrecy. The Air Ministry, however, is convinced that vertical stowage of bombs is superior to horizontal stowage, and are much interested in various reports from the United States that horizontal stowage is being used, and are particularly interested in the form of release gear and the British air attaché has been instructed to get all available information on this subject.

COMPETITIVE BUILDING OF FLEET SPOTTERS BY THE BLACKBURN CO. AND THE A. V. ROE CO.

When the Air Ministry invited a design and proposals on their specification for fleet spotters which were, incidentally, largely drawn up by the Admiralty, the Blackburn Co.'s design and the A. V. Roe Co.'s design were so nearly equal and satisfactory that the order was divided and 12 planes given to each company. The Blackburn Co.'s product is known as the " Blackburn " and the Avro Co. as the " Bison." The " Blackburn " is very similar to the " Dart," except that the fuselage is fitted for a pilot, a gunner, and a radio operator, these three members of the crew being specified in all cases for fleet spotters. Both planes are motored with Napier " Lion " engines, and their principal objective is first to locate the enemy fleet, then find the range and maintain radio contact.

BRITISH GOVERNMENT ORDERING MORE TORPEDO PLANES.

It is learned on definite authority that the Air Ministry contemplates placing a new order for 10 Blackburn " Darts," these planes to be used as torpedo planes for naval cooperation, and it is probable but not certain that the Admiralty is finding the money for this order.

In this connection, attention is invited to the recent official statement of the Air Ministry, wherein the number of "Darts" is given as 12, although it is definitely known that 29 are in existence or on order.

BLACKBURN CO. CONTRACT FOR TWO "COASTAL-DEFENSE PLANES."

The Blackburn Co. has received an order and is building two coastal-defense planes known as the "Cubaroo," designed to carry a Napier 1,000 horsepower "cub" engine.

The contract price of these planes is £20,000, less engine, instrument, and equipment, which will be supplied by the Air Ministry. The best price quoted by Messrs. Napier for this engine is £20,000 for any order of less than 10.

A. V. ROE CO.'S ACTIVITIES IN ARGENTINA.

Some time after the armistice it seems that our Navy Department trained five Argentine pilots at Pensacola. These pilots, through proper arrangements, came to England and established themselves as instructors of a class of about 60 Argentine pupils with A. V. Roe Co. and purchased 10 AVRO 504–K training seaplanes. They finished the class without a fatality and with 7 machines left intact, and placed an order for about 20 more machines with the A. V. Roe Co., and it is highly probable that they have also bought about 12 of the AVRO "Bisons."

It is unfortunate that the American aircraft industry lost this order, for it might have been obtained by the use of proper initiative by them.

GREAT BRITAIN.

CHARACTERISTICS OF NEW VESSELS OF VARIOUS TYPES.

February, 1923.

H. M. S. *Eagle*, aircraft carrier, is being reconstructed at Portsmouth Dockyard. The following information concerning her is of interest:

Date laid down as *Almirante Cochrane*, February, 1913, by Armstrong, Whitworth & Co., at Newcastle.

Taken in hand for modifications, April, 1921.

Date of completion, third week of June, 1923 (approximate).

Expenditure up to January 6, 1923:

Labor	£332,722
Material	9,306
Contract work	20,828
Program for 1922–23: Labor	250,000

Principal dimensions.—Length between perpendiculars, 627 feet; breadth, extreme, 105 feet 2 inches; draft of water—forward, 23 feet; aft, 25 feet; mean, 24 feet; load displacement at 24 feet mean draft, 25,128 tons.

Armament.—Nine 6-inch 50-caliber, Mark XII, guns; six 4-inch antiaircraft guns.

Complement of officers and men, 735 Royal Navy; 241 Royal Air Force; indicated horsepower, 55,000; speed, 24 knots; makers of engine, John Brown & Co., Clydebank.

Protection.—On sides, 180–40 pounds; middle deck, 160–40 pounds.

It will be noted that *Jane*, 1921, gives the battery of the *Eagle* as six 6-inch and two 3-inch antiaircraft guns. From actual observation the batteries reported above were seen to be installed. A very unusual arrangement obtains in the location of the 6-inch guns. There are two 6-inch guns mounted forward on each side of the forecastle on the next to top deck, with a large arc of fire; these guns apparently will not cover the arc of about 10° or 15° on each side from dead ahead. One 6-inch gun is mounted in the stern on the center line. The other four 6-inch guns are mounted two on each quarter, just forward of the stern gun. Practically the entire side of the ship, or stern of the ship, is cut away, permitting a stern fire of five 6-inch guns, closely grouped and easily controlled by one officer as a concentrated battery.

The six 4-inch antiaircraft guns are all located on the starboard side in the same fore and aft line as the funnel. Four of them are on a level with the main flying-off deck, two immediately forward of the funnel-bridge-control structure at the starboard side, and two immediately aft. The other two guns are located on top of the built-up structure, one just forward of the funnel and one just aft.

It is believed that there are no torpedo tubes.

The 6-inch guns are all fitted with a heavy shield, varying from 2 inches thickness on the forward side to 3 inches in thickness on the after side. The shield apparently is all one piece, having a semicircular top. The battery is director controlled.

From later observation of the *Eagle* at a distance, it appeared that the *Eagle* is fitted with two funnels.

H. M. S. *Effingham*, light cruiser, is being built at Portsmouth Dockyard. Information concerning her characteristics is as follows:

Date laid down, 2 April, 1917.
Date of launching, 8 June, 1921.
Date of completion, under consideration.
Weight worked into it up to 6 January, 1923, 5,654 tons.

Expenditure to 6 January, 1923:	
Labor	£529,544
Material	230,890
Contract work	15,838
Estimates approved and submitted:	
Labor	866,636
Material	348,115
Program for 1922–23: Labor	61,500

Principal dimensions.—Length between perpendiculars, 565 feet; breadth, extreme, 65 feet; draft of water—forward, 16 feet 3 inches; aft, 18 feet 3 inches; mean, 17 feet 3 inches; displacement, 9,750 tons.

Armament.—Seven 7.5-inch guns. Six 3-inch guns. Four 3-inch antiaircraft guns.

Torpedo tubes.—One 21-inch submerged barless tube (it is believed that the "bar" referred to is merely one for strengthening purposes for submerged tubes); four 21-inch A. W. tubes (understood to mean "above water" tubes).

Complement of officers and men, 728; indicated horsepower, 70,000; speed, 31 knots; makers of engine, Harland & Wolff.

Protection plating.—On sides, 40, 60, and 80 pounds; forecastle deck 10–40 pounds; upper deck, 12–30 pounds; lower deck, 12–30 pounds; platform deck, 5–25 pounds; protective turtle deck, aft (T), 40 pounds.

It will be noted that *Jane*, 1921, gives six 12-pounder guns. Actually the vessel will mount six 3-inch guns, not counting the four 3-inch antiaircraft guns. It will also be noted that *Jane* gives two torpedo tubes instead of one.

H. M. S. *Keppel*, flotilla leader, is being completed at the Portsmouth Dockyard. Information concerning her is as follows:

Date laid down, October, 1918, by Messrs. J. I. Thornycroft & Co., Woolston.

Date of completion, under consideration.

Expenditures up to 6 January, 1923:

Labor	£22,233
Material	6,133
Program for 1922–23: Labor	7,500

Principal dimensions.—Length between perpendiculars, 318 feet 3 inches; breadth, 31 feet 9 inches; draft of water (mean load draft), 12 feet 4 inches; displacement at load draft, 1,750 tons.

Armament.—Five 4.7-inch guns; one 3-inch A. A. gun; two pom-poms.

Torpedo tubes.—Six 21-inch above-water tubes.

Complement of officers and men, 178; horsepower, 40,000 (estimated); speed, 36 knots; makers of engines, J. I. Thornycroft & Co.

H. M. submarine *L–26* is being completed at Portsmouth Dockyard. Her characteristics are as follows:

Date of launching, 20 May, 1921, Barrow-in-Furness.

Date of completion, under consideration.

Expenditure up to 6 January, 1923:

Labor	£2,991
Material	429
Program for 1922–23: Labor	700

Principal dimensions.—Length between perpendiculars, 229 feet 3 inches; breadth (extreme), 23 feet 11 inches; displacement—surface, 890 tons; submerged, 1,080 tons; draft (mean load), 13 feet 6 inches.

Armament.—One 4-inch gun.

Torpedo tubes.—Four 21-inch submerged tubes.

Mines.—Sixteen in number, in tubes.

Complement of officers and men, 29; horsepower—surface, 2,400; submerged, 1,600; speed—surface, 17.5 knots; submerged, 10.5 knots; maker of engines, Vickers (Ltd.).

GREAT BRITAIN.

CONTROVERSY CONTINUES REGARDING CONTROL OF NAVAL AVIATION.

14 February, 1923.

The contest between the Admiralty and the Air Ministry continues to take more definite form; in the air conference held on February 6 and 7, Commander Burney read a paper on the future of airships, which set out a special object of British Empire communication and a secondary object of naval cooperation in time of war. Commander Burney was severely criticized by Lord Gorell, a former Undersecretary of State for Air, for attempting to alienate the airship subject from the Air Ministry, in reply to which Commander Burney stated that he had first taken his scheme to the Air Ministry and had been refused, and as he was interested primarily as a commercial proposition, he took it to the next source most interested with a view to raising money.

It is now definitely known, both officially and in the press, that the Admiralty has expressed a willingness to find £230,000 a year for the furtherance of this airship scheme, contingent on sufficient money being found from other sources to complete the scheme. The press state that the Admiralty is finding this money by laying up light cruisers, but the Admiralty evades this subject. It has just been learned that the Admiralty put up the money for from 12 to 20 Blackburn *Darts* for naval use; this machine is the standard torpedo-carrying machine of the navy and is practically identical with the two purchased by the United States Navy. Squadron No. 210, stationed at Gosport, is equipped with these machines and is still ostensibly under the Air Ministry, the Admiralty having put up the money on condition that it would be expended for this particular type of cooperation with the navy.

Every indication points to a widening of the breach on the subject of control of aircraft between the Admiralty and the Air Ministry, and it will eventually come to an open clash with about even chances on the winner, the Air Ministry being in actual possession, but the Admiralty is the older and stronger force.

The aeronautical correspondent of the Times says that the Admiralty is determined to enroll airships among its craft and is willing to find a sum of money to that end; this has inspired some rather wild rumours concerning the future relationship between that department and the Air Ministry.

The position at present is that the Air Ministry is maturing plans for the allocation of a greater number of aircraft for duty with the navy. These machines will include submarine spotters, torpedo carriers, scouts, and fighting machines.

AIRPLANE-CARRYING VESSELS NOW PAID OFF WILL PROBABLY BE RECOMMISSIONED AND OTHERS BUILT.

The whole trend of design in seagoing aircraft has recently been toward greater power and wider range, producing machines capable of more thorough cooperation with surface ships; and there have been impressive developments in the construction of airplanes that alight and take off from the decks of warships and that can be stored on board them.

There is at present no considerable number of aircraft detailed for duty with the navy. The following details show its disposition: At the Royal Air Force base at Calshott there is one active service flight with 5 boat planes, and at the School of Naval Cooperation and Aerial Navigation there are 8 seaplanes. At the Observers' Training School at Lee-on-Solent there are 6 Fairey 3 D float planes. Squadron 210, at Gosport, has 12 Dart ship planes, and three machines of this type are detailed for use by the torpedo development flight. No. 3 Squadron, R. A. F., has 12 Walrus machines, and at the Royal Air Force base at Leuchars (Fife) there is one half Squadron No. 203, with six Nightjar ship planes, and Squadron 205 with 12 Panthers. Squadron 267, on duty in the Mediterranean, has five F 2 A machines, and the *Pegasus* is carrying 6 Fairey float seaplanes. There are the following aircraft carriers: *Ark Royal*, *Eagle*, *Furious*, *Hermes*, *Argus*, and *Pegasus*. These vessels are the property of the navy, and are manned by naval crews. Not all of them are in commission. *Eagle* and *Furious* have been paid off and *Hermes* is being completed at Devonport.

It is understood that the *Hermes* will be ready for active service about the 1st of June, 1923, and the *Furious*, which is being rebuilt, will probably be completed about a year from now.

GREAT BRITAIN.

ESTIMATE OF THE MILITARY SITUATION.

10 February, 1923.

STRENGTH.

The strength of the British Regular Army, at home and abroad, including colonial and Indian troops paid by the war office, was, on December 1 approximately 10,700 officers and 155,000 men. According to the 1922–23 estimates, these figures are to be reduced by March 31, 1923, to approximately 10,300 officers and 150,000 men. The above does not include British troops serving in India (70,000),

who are paid for by the Indian Government or various colonial units who are paid for by the foreign office (8,700).

Trained reserves consist of: Reserves, 68,000 officers and men; territorials, 135,000 officers and men.

The forces in India, Egypt, and the various dominions are as follows:

India:	
British Army	70,000
Indian Army	147,000
Indian reserves	75,000
Egypt, Egyptian Army	17,000
Canada:	
Permanent forces	3,350
Militia	52,000
South Africa:	
Permanent forces	2,000
Militia	12,000
Australia:	
Permanent forces	3,160
Militia	30,000
New Zealand:	
Permanent forces	500
Militia	44,000

The defense forces of the Irish Free State probably total about 30,000; in Ulster, besides the British troops, there are local defense forces estimated at about 20,000, of various degrees of training and equipment.

ORGANIZATION.

The regular army is controlled by the Secretary of State for War and the Army Council, consisting of nine members.

The United Kingdom is divided into six commands and two districts. With the evacuation of southern Ireland by the British, the former Irish command has been abolished and in its place has been formed a northern Ireland district, with headquarters at Newtonards, near Belfast. Besides other troops there are in the various commands and districts two cavalry brigades and five infantry divisions. In accordance with the recommendations of the Geddes committee, complete war equipment is to be kept on hand for five infantry divisions and one cavalry division, together with certain war stores for a further number of divisions.

New peace tables of organization are slowly being issued, the only ones received being those for a battalion of foot guards, an infantry battalion and a regiment of cavalry. The latest war establishments are those of 1918, so far as known. The infantry divisions now organized in the United Kingdom consist ordinarily of three infantry brigades of three or four battalions each and three artillery bri-

gades of four batteries each; auxiliary troops are limited to engineers and signal troops.

The regular army is being reorganized and reduced in accordance with the provision of the 1922–23 budget.

Following is the status of the principal arms:

(*a*) *Cavarly.*—Under the 1921–22 estimates, the British Regular Cavalry consisted of 31 regiments—3 regiments of household cavalry and 28 cavalry regiments of the line. The 1922-23 estimates make provision for only 22 regiments—2 household and 20 line. This reduction is being carried out, but in order to avoid completely disbanding any regiments, amalgamations are being resorted to and new regiments are being formed comprising units from two old regiments. For instance, the Fourteenth King's Hussars and the Twentieth Hussars have been consolidated into one regiment known as the Fourteenth-Twentieth Hussars. This regiment contains squadrons from each of the old regiments, and these squadrons preserve the uniform and the traditions of the old regiments.

(*b*) *Artillery.*—By reorganization and consolidation the artillery is being reduced to the following:

Royal Horse Artillery, 11 batteries.

Royal Field Artillery, 127 batteries.

Royal Garrison Artillery, 44 medium and pack batteries, 3 anti-aircraft batteries, 40 coast defense companies or batteries (23 of these will be at home and the remainder in the various colonies).

There are at present one regular and two territorial air defense brigades, each consisting of two brigades of garrison artillery (three 8-gun batteries to each brigade), a battalion of sappers, and a signal company.

(*c*) *Infantry.*—The infantry has been reduced by 22 line battalions, so that it now consists of 10 battalions of foot guards and 126 battalions of the line.

Great Britain's first line of defense, which consists of the regular army, is brought up to war establishment by the inclusion of reserve officers and the special reserve of officers, by the calling up of the regular army reserves and the embodiment of the militia.

The second line of defense consists of the territorial army, which is not supposed to leave England unless an act of Parliament is passed. The territorial army is being reorganized; its present strength and organization are approximately as follows:

	Officers.	Men.
14 infantry divisions	5,000	111,000
2 cavalry brigades	150	2,500
Army troops	300	13,000
Coast defense troops	300	4,000
Total	6,250	130,500

The maximum strength provided for under the 1922–23 estimates is 170,000 officers and men.

Equipment.—Infantry: Short model Lee Enfield rifle with bayonet. Cavalry: Revolver, short model Lee Enfield rifle and bayonet. Lancer regiments have lances; other regiments, swords. Artillery: Horse artillery, 18-pound field guns; field artillery, 18-pound field gun and 4.5-inch howitzer; garrison artillery, which means medium caliber mobile batteries, 60-pound guns, 6-inch howitzers, and 6-inch guns; pack artillery batteries, 2.75-inch mountain guns and 3.7-inch mountain howitzers. The following machine guns are in use, viz: Vickers, Hotchkiss, and Lewis, the latter being in reality more of an automatic rifle than a machine gun.

THEORY OF COMBAT.

The development of aviation has both weakened and strengthened Great Britain's strategic position. Whereas the British Navy has always been a first line of defense behind which it was possible to have a relatively small regular army, the development of aviation, especially by the French, makes the latter of equal importance with the navy as the British first line of defense.

From another point of view, however, the development of aviation has greatly *strengthened* Great Britain. Faced with the economic necessity of reducing her military forces all over the world, she is enabled to carry out her policies and preserve order in her outlying possessions and dependencies with a great saving in man power by the extensive use of not only aviation but other mechanical means of warfare, such as armored cars and tanks, chemical warfare, and improved methods of communications, such as wireless telephony.

In Iraq the entire responsibility for defense has been handed over by the war office to the air force, with the result that the British and Indian garrisons have been reduced; armored cars and airplanes are being extensively used in various places, such as along the northwestern frontier of India and in Transjordania, to put down uprisings and to repulse raids by native tribes.

Extensive use is about to be made of wireless telephones, not only in maneuvers at home but also in actual operations in Waziristan, on the northwestern Indian frontier. With the establishment of a number of small posts with wireless telephone communications, it is expected to be much easier to continue the pacification of the country.

Another means employed by the British to conserve their own man power is by the use of native levies and police forces, such as the newly created gendarmerie in Palestine, the native levies in Iraq,

and the tribal levies, or "Khassadars," on the northwest Indian frontier.

Distribution.

The distribution of the regular and territorial forces at home, by cavalry brigades and infantry divisions, is as follows:

	Regular.		Territorials.	
	Cavalry brigade.	Infantry division.	Cavalry brigade.	Infantry division.
Aldershot command	1	2		
Eastern command		1		2
Northern command			2	3
Scottish command				2
Southern command	1	1		2
Western command				3
London district				2
Northern Ireland district		1		

All British forces have been evacuated from the Irish Free State, with the exception of coast-defense garrisons at Berehaven and Queenstown. The troops evacuated were sent to England, except one battalion, which went to Alderney and Guernsey. This latter is of interest considering the present relations between France and Great Britain and the position of these islands, which lie close to the French coast approximately from 35 miles from Cherbourg, 93 miles from Brest, and 100 miles from Havre. The garrison of Alderney and Guernsey has heretofore consisted only of a company of fortress engineers and detachments of garrison artillery and of the army ordnance corps.

The following table shows the approximate present territorial distribution of the British regular forces, not counting British troops in India, but including Indian troops serving out of India.

United Kingdom (except Ireland)	91,000	Iraq:	
North Ireland	10,000	British	3,800
South Ireland	1,000	Indian	7,700
Rhine	8,700	Ceylon	280
Gibraltar	1,550	Mauritius	120
Bermuda	500	West Africa:	
Jamaica:		British	260
British	600	Colonial	500
Colonial	800	North China:	
Malta:		British	40
British	775	Indian	800
Colonial	300	South China:	
Cyprus	115	British	1,100
Constantinople	19,500	Indian	800
Egypt, British	9,500	Colonial	500
Palestine:		Singapore:	
British	400	British	1,000
Indian	2,400	Indian	850
		Colonial	100

The British forces in the vicinity of Constantinople total about 19,500, distributed as follows:

Constantinople and vicinity	8,750
Gallipoli and Chanak	11,000
Maritza River	750

There are 50 airplanes at Constantinople and 14 at Gallipoli, with an unknown number afloat. The strength of the British naval forces in the vicinity of Constantinople and the Dardanelles varies constantly, but is approximately as follows: 14 dreadnaughts, 3 flotilla leaders, 23 destroyers, 10 light cruisers.

In an emergency over 4,000 men could probably be landed to assist the army.

TRAINING.

Withdrawal of British troops from south Ireland is permitting the consolidation of the home forces and the reorganization of several brigades of the expeditionary forces (5 infantry divisions and 1 cavalry division) which have been more or less disrupted since the shipment of British units to Constantinople last September. Consequently, the training of these units will probably progress rapidly. Special attention is being given by the infantry and cavalry to the use of machine guns, hand grenades, and light mortars.

During last summer about 4,000 officers and 107,000 men of the Territorials received the full period of two weeks' training out of a total of about 136,000.

The more important British military schools are:

(*a*) Woolwich and Sandhurst, corresponding to West Point and training cadets, at the former for the artillery and engineers and at the latter for the infantry.

(*b*) Staff College—Camberly.

(*c*) Senior Officers' School—Woking.

(*d*) Small Arms School—Hythe.

(*e*) Machine Gun School—Seaford.

(*f*) School of Equitation—Weedon.

(*g*) Artillery School—Larkhill.

(*h*) Coast Artillery School—Shoeburyness.

(*i*) School of Antiaircraft Defense—Salisbury Plain.

(*j*) School of Military Engineering—Chatham.

(*k*) School of Signals—Uckfield.

(*l*) Tank Corps Central Schools—Bovington.

(*m*) School of Military Administration—Chisledon.

(*n*) Royal Army Medical College—London.

The Royal Air Force, which is entirely independent from the army, has a school system of its own, including a staff college, a

cadet college, and various training and flying schools. At Salisbury is the Royal Air Force School of Army Cooperation, which works with the Artillery School at Larkhill in training army and air force officers in all forms of cooperation.

AIR FORCE.

Both civil and military aeronautics are under the control of the Air Ministry.

There are 33 complete squadrons at present, distributed as follows:

Rhine	1
Malta (probably has gone to the Dardanelles)	1
India	6
Egypt and Palestine	5
Iraq	8
Home (several have been sent to the Dardanelles)	12

It is reliably reported that the number of squadrons at home is to be increased to 20 and the number in Iraq doubled. Observation and bombing squadrons consist of 18 machines and pursuit squadrons of 12.

The total personnel is about 30,500, and the equipment is as follows:

Active and immediate reserve	1,750
Final reserve	800
New equipment being delivered	500
Training and experimental	1,400
Total	4,450

According to Lloyd's Register, there are 917 registered commercial aircraft in Great Britain, and it is probable that most of these are readily convertible into military aircraft.

The Royal Air Force is actively engaged in bombing operations both in Northern Iraq and on the northwest Indian frontier.

Last October the army turned over to the Royal Air Force full control of the defense of Iraq. This is believed to be the first instance of the use of air forces by any country as a first line of defense.

GREAT BRITAIN.

GUNNERY SCHOOL, WHALE ISLAND.

February, 1923.

The Gunnery School, Whale Island, Portsmouth, is considered the home of gunnery in the British Navy. Every gunnery officer in the service must have passed through this school.

It is for the instruction of both officers and enlisted men. Only a brief general description and outline of the work will be given. Complete detailed information concerning the courses of instruction and training for both the commissioned and enlisted personnel with reference to gunnery is contained in Gunnery Instructions Manual, 1921 (the latest edition just issued), and a copy of this publication, which is not marked "Confidential," has been requested from the Admiralty.

The so-called "Gunnery school training" is divided into four groups: (1) Gunnery instruction; (2) experimental; (3) antigas school; (4) photographic school. At the head of the establishment, Whale Island, is a captain, who has a senior commander as executive. At the head of each of the four subdivisions just mentioned is a commander. The commissioned personnel for conducting the work of the four sections varies in numbers and rank in accordance with the work to be performed, that of No. (1) having a very large staff, which varies from time to time, depending upon the number under instruction; that of No. (2) consisting of one commander, two lieutenant commanders, and two lieutenants; that of No. (3) consisting of one commander, one commander of the medical corps, and two commissioned assistants; and that of No. (4) consisting of one commander with one commissioned assistant and one warrant assistant. There are half a dozen general classes into which the instruction at the Whale Island establishment may be divided:

(*a*) A specially selected class of officers of the rank of lieutenant in training for gunnery officer, who take a course of nine months, which follows a course of nine months at Greenwich, the course at Greenwich being principally a theoretical course consisting of higher mathematics, ballistics, etc. At present this class is composed of 25 members, but before the war it was composed of about 12 and probably it will be composed of that number in the future, the 25 having been assigned prior to the Washington treaty, which will necessitate a reduction.

A few specially selected officers who stand the highest in these two courses of nine months each return to Greenwich for special work, corresponding more or less to that performed in our post-graduate course in ordnance. The next in proficiency are made members of the staff in connection with gunnery instruction of sublieutenants and enlisted personnel. The remainder go to sea as gunnery lieutenants on light cruisers or flotilla leaders.

(*b*) *Sublieutenants.*—Naval cadets enter the Royal Navy at about 13½ years of age, serve for three years as naval cadets at Greenwich, then two years and four months at sea and then become acting sublieutenants. They are then put through various courses of instruc-

tion, consisting, generally speaking, of three months at Greenwich, three months at Whale Island under gunnery instruction, six weeks at the Vernon Torpedo and Mining School, and two weeks or more at the Signal School. Their final standing and date of precedence as sublieutenants (permanent) is then based upon their proficiency during the various courses of instruction as acting sublieutenants. It may be assumed, and is evident from observation, that the acting sublieutenants take their course of instruction in a most serious manner and attempt to get as much as possible out of it.

(*c*) *Service ratings.*—This corresponds more closely to our old Seaman Gunners' School than anything else in our service, but is much more comprehensive in many respects. This class is composed of specially selected petty officers of such ratings which correspond, generally speaking, to our gunners' mates.

(*d*) *Antigas training.*—It is the policy to extend the antigas training to every man who enters the British Royal Navy. Certain members of the commissioned personnel also receive this instruction.

(*e*) *Photographic instruction.*—Photographic instruction is confined to a limited personnel, all enlisted men.

(1) GUNNERY INSTRUCTION.

The administrative and instructional buildings of the Whale Island establishment were built during the pre-war period and economy has played no part in them. All instruction is conducted indoors in specially designed buildings, affording ample facilities for progressive instruction in gunnery. Special buildings contain guns of all calibers, breech mechanisms, loading machines, fire-control gear and instruments, range finders, turret installation, fuse instruction rooms, ammunition assembly and instruction rooms, lecture rooms, ammunition supply rooms, etc.

The hours of the school are from 9 a. m. until 3.30 p. m.

The commissioned and enlisted personnel under instruction are taken through the various courses of instruction in ordnance material and in gunnery progressively. They are first taught the operation of all the ordnance mechanism. One of the most notable features, and one which we would do well to adopt, is the special care taken to explain by means of an excellent model the operation of each piece of ordnance mechanism one has to use on board ship, from a cross section of the smallest single piece to the cross section of a completely assembled turret and the mechanism contained therein.

After becoming familiar with the mechanism and its operation, the personnel is then trained in the use of the individual instruments and finally in the operation of the complete ordnance fire-control and gunnery installation on board ship. Throughout this

course of instruction lectures are conducted. Various members of the class are required to explain and illustrate the operation of different instruments or systems of instruments to the other members of the class from time to time. There are numerous colored illustrations on a large scale of cross sections of all the instruments in addition to the models.

It is in connection with the course of instruction for sublieutenants that one notes the principal advantages of this gunnery instruction. As every sublieutenant must pass through this school successfully, each must attain a certain degree of proficiency in the knowledge, operation, and care of the ordnance installation aboard ship and must attain a certain skill in gunnery. This system has certain obvious advantages over one in which the average young ensign is left to his own resources for gaining this knowledge, or perhaps, in fortunate cases, receives limited supervision of his division officer, who has many other duties to perform. In our service undoubtedly a considerable and appreciable portion of such a course is covered at the Naval Academy. It is believed, however, to offer exceptional advantages to conduct such a course of training after a couple of years' service afloat. Where our fleets will be at their home bases for protracted periods in the future for lack of appropriations for fuel for protracted steaming and maneuvers, we might advantageously establish such schools and conduct such trainings while the young officers are on service afloat. Such establishments could well be placed ashore. The courses undertaken in our destroyer flotillas during the last two years along this line, especially in connection with torpedoes, is a step in the right direction. Such courses, however, were much too advanced for the junior officers.

It was noted that special instruction for several weeks was given to range takers, and that qualified range takers were sent from this school to ships as vacancies were required.

The opportunities for instruction and familiarization with the fire-control instruments are especially advantageous. It would appear that in this connection particularly much tedious and laborious work might be saved the gunnery officer aboard ship in the initial training of the special fire-control ratings.

If this were undertaken at some such establishment, it is believed that this system of training enlisted ratings ashore up to a certain period of their efficiency would advance the gunnery efficiency in general. It would enable the gunnery officer, his assistant, and the turret officers to devote the proper share of their attention to the operation and upkeep of the material and final training of their personnel, which is now encroached upon to a great extent by initial training.

Each class of sublieutenants (and to some extent the classes of enlisted personnel) is given full and detailed information concerning the relation of armor, different kinds of projectiles, fuses, caps, rotating bands, etc. They are taught to take a very intelligent interest in this relation. I dare say there are many officers in our service who do not know with what the various projectiles are filled. Likewise, this applies to the British service. Nevertheless, we see at the gunnery school, Whale Island, an attempt in the right direction toward educating their officers to have a more intelligent interest in all matters dealing with gunnery.

This gunnery school at Whale Island apparently has a tendency to develop a spirit of cooperation throughout all members of the gunnery branch of the fleet. Each class of sublieutenants presents the school, upon graduation, with some souvenir, usually in the shape of a large piece of silver. Discussions with a number of gunnery officers show very strong allegiance to and support of the Whale Island establishment.

A light cruiser and a destroyer are assigned to special firing and instructional duties in connection with the gunnery school.

(2) EXPERIMENTAL SECTION.

The experimental section is to some degree a misnomer. It might more accurately be termed a special board of seagoing officers for the execution and testing of such experiments as are authorized by the director of naval ordnance (corresponding to our Chief of Bureau of Ordnance). The ordnance committee at Woolwich considers and passes upon research and experimental work of its own as well as of the research department, and recommends to the D. N. O. certain experiments. The experimental section at Whale Island is charged with the execution of such experiments. The report of this experimental section determines in a large measure the action of the D. N. O. thereon. It was emphasized by the officers at Whale Island that the officers composing the staff of the experimental section were not permitted to remain on that detail for longer than two years, and that they were men who came direct from sea service as gunnery officers.

There was some apparent hesitancy in conducting me through the experimental section part of the establishment. As a matter of fact, I might just as well not have been shown it, as I was not permitted to see any experiments. In reply to my inquiry as to what experiments were being undertaken I was informed that practically nothing was being done there, although the members of the section were almost constantly making trips to other parts of Great Britain for the purpose of witnessing and reporting upon various experi-

ments. Undoubtedly a considerable portion of the experiments are conducted at Whale Island, and it was evident that I was not permitted to witness them.

Practically the only thing of interest I saw in connection with this part of the establishment was at the small so-called proving ground. They can test guns and fuses and some plates at normal impact. The one point of interest was a platform at the firing battery which could be tilted to 30°. They stated that they found it desirable to test some mounts not only with the gun at the maximum angle of elevation but while the gun platform was inclined at various angles.

(3) ANTIGAS SECTION.

The antigas section does not deal with the manufacture, development, or experimentation of gas-producing apparatus, materials, or projectiles. It consists exclusively in the consideration of antigas measures and in the training and instruction of personnel therein.

The standard course of instruction is for four days and a half. The lieutenants taking the nine months' course, the sublieutenants taking the three months' course, and the enlisted personnel under training in the Gunnery Instruction School are all required to pass successfully through the Antigas School. In addition, all officers below the rank of commander are required to take the course as opportunity offers when the fleet is in that vicinity. Special short courses of two days exist for captains and commanders. All officers taking the staff course and the War College course at Greenwich are required to take this special course. Since the Antigas School was established, about July, 1920, 4,769 service ratings (officers not included) have passed through this school.

Lectures are given to the personnel taking the course concerning the various gases, the historical development of gas warfare, and the measures taken as a protection against it and the effects of various kinds of gas. The personnel is then instructed in the composition, care, preservation, and operation of the gas mask and the performance of general duties while wearing it. They are then put through certain exercises of various kinds while wearing the mask in order to illustrate the way in which it hinders and interferes with normal activities.

The greatest difficulty which has been experienced in the instruction of personnel in the use of gas masks is the necessity for wearing them. Consequently, it has become necessary to make all tests of the efficiency of the gas mask come as a surprise to the personnel. For this reason the personnel is never given any information as to when the test will be undertaken. They are told when they arrive that it may be at any time during their four and one-half days' course.

Numerous tests are conducted during the course with harmless preparations, intermingled with those of a more serious nature.

The standard British Army gas mask, with the mouthpiece and nose clip, has recently been discarded for a type developed at the Antigas School. This type is now called the New Navy gas mask. It has not been issued to the service, but has been approved by the Admiralty as the standard. It has a single protection, is gas type, has no mouthpiece nor nose clip, and permits the wearer to converse. The commander in charge of the Antigas School stated it was very similar to our latest gas mask. It is said to afford entirely satisfactory protection against all gases, including the following: Chlorine gas, phosgene, chloropicric gas, mustard gas, and poison dust.

In response to an inquiry, the captain in charge of the Whale Island establishment replied that he considered the wearing of gas masks by the personnel aboard ship reduced their efficiency by 30 per cent.

In the British service, those who have considered the matter carefully emphasize the great importance of antigas protection. It was stated at Whale Island that gas masks are issued to every member of the personnel and that the problem of the proper care and preservation of the individual gas masks was a matter of serious concern and yet to be satisfactorily solved.

(4) PHOTOGRAPHIC SECTION.

The photographic section has also recently been established, and its personnel in the British Navy is limited at the present time to about 62 enlisted men. Aside from usual photographic work, they have recently undertaken the development of photography as a means of development of the use of cinema or motion-picture machines, to illustrate to the classes under instruction the operation of various things in connection with gunnery training, such as the operation of the Lewis gun. They now have a film, which shows to the classes the exact operation of the Lewis gun and can slow it down to a point where the operation is clearly distinguishable and can be followed in detail. They stated that it has been of great assistance in the instruction of the enlisted personnel concerning this gun. They are now attempting to extend it to various subjects connected with gunnery training. At the present time they have a specially trained and exceptionally efficient 6-inch gun's crew, which they are photographing with a view to using it for illustration purpose in training 6-inch guns' crews. For example, they will flash upon the screen "Misfire," and that part of the film immediately following illustrates the proper procedure in the case of a misfire, etc.

GREAT BRITAIN.

LATEST DESIGN OF CAPS FOR MAJOR CALIBER A. P. PROJECTILES.

February, 1923.

Rough sketches of the two latest designs of caps used on standard major caliber A. P. projectiles in the British Navy are shown in Figs. 1 and 2.

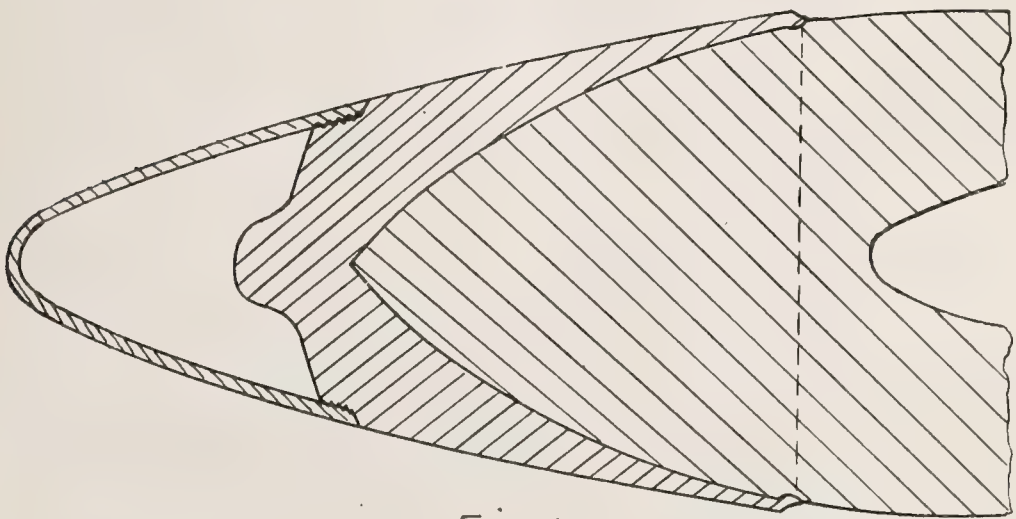


Fig. 1

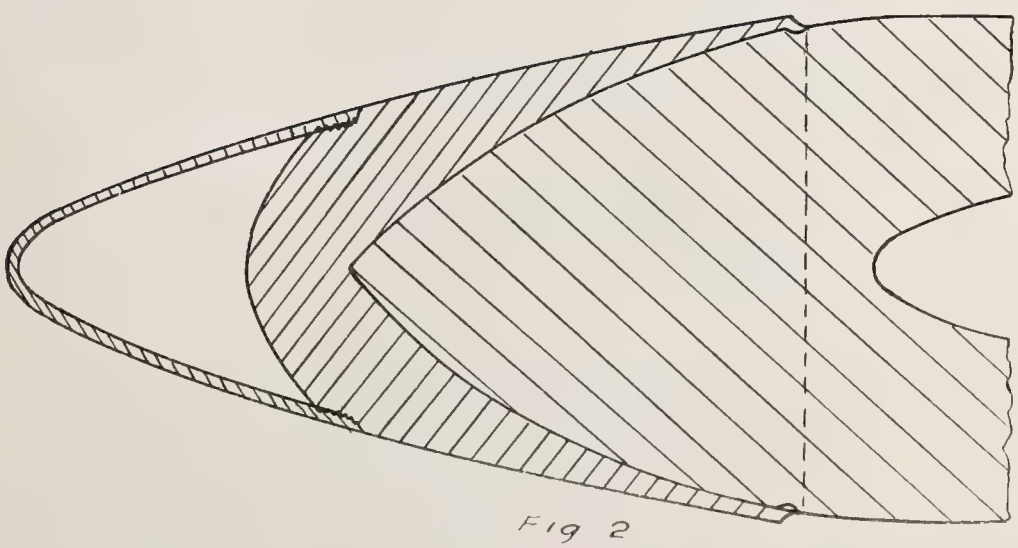


Fig 2

The so-called "KNOB" cap shown in Fig. 1 is a recent design by Thomas Firth & Son, of Sheffield. The design shown in Fig. 2 is of Hadfields design.

In both of these designs the extreme forward center portion of the cap is very hard, the hardness tapering off throughout about

two-thirds of the cap, the other one-third being much softer. This tapering in degree of hardness is considered very important in "plunging fire."

The principal advantage claimed by the Firth people for the type shown in Fig. 1 is its superiority in "biting" into horizontal armor at extreme battle ranges. This superiority is not conceded by the Hadfields people. The Admiralty appear to favor the type shown in Fig. 1. However, the naval officers in charge of the testing work at the proving ground, Shoeburyness, state that they have found practically no difference in the two types so far as effectiveness is concerned. It is interesting to note that Firth has produced a cap for A. P. projectiles that is at least equally efficient, in the opinion of all, as that of Hadfields's design.

Hadfields, while preferring their own design, have been required to make a certain number of caps of the design shown in Fig. 1.

Hadfields have the Government Admiralty contract for all experimental projectiles and caps, and the firm of Hadfields state they have carried out a very extensive experimentation with various types of caps. They admit the type shown in Fig. 1 is equally efficient to their own type shown in Fig. 2.

From discussions with a number of naval and civilian officials, it would appear desirable to fire a limited number of projectiles with caps fitted with designs somewhat similar to that appearing in Fig. 1, if this design by any chance has not already been covered in the test conducted by the Bureau of Ordnance.

All major A. P. projectiles for the British Navy are fitted with caps of types indicated either in Fig. 1 or Fig. 2. Hundreds of modern standard 15-inch A. P. projectiles in various degrees of manufacture have been seen in the works of Hadfields (Ltd.) and Thomas Firth & Son in Sheffield, fitted with caps of either one or the other of these two designs.

The method of securing the caps is the same as that used in securing the caps of our 16-inch A. P. projectiles manufactured by Hadfields (Ltd.), Sheffield.

GREAT BRITAIN.

MISCELLANEOUS ORDNANCE NOTES.

February, 1923.

Guns.—The 15-inch Mark I guns are 45 calibers in length.

The 6-inch, 50-caliber, Mark XII, guns fire a standard 100-pound projectile with 4-caliber radius head, at M. V. 2,750 F. S., with a maximum elevation of 30° and a maximum range of 20,000 yards.

The latest 4.7-inch semiautomatic antiaircraft gun fires a standard 50-pound projectile with a 4-caliber radius head, with a 28-pound powder charge, at an M. V. 2,650 F. S.

The 15-inch, 45-caliber, Mark I, gun fires the standard projectile of 4-caliber radius head, with a full charge of 428 pounds of powder at an M. V. of 2,450 F. S.

All of the mounts for 6-inch Mark XII guns which I have seen provide for a maximum elevation of 30°. All 4.7-inch antiaircraft guns have a maximum elevation of 90°.

I was shown a 4-inch gun at Whale Island which had blown up because of ice in the muzzle. There were 100 miles of wire wound into this gun. The entire forward two-thirds section of the gun had been quite cleanly torn off.

Projectiles.—In the turret magazine which I visited on the *Ramillies*, I noticed some exceptionally long 15-inch projectiles. These projectiles were approximately 30 per cent longer than the standard A. P. projectile. In reply to my inquiry, the gunnery officer stated that they were special projectiles which had been taken aboard for firing against shore positions in the Dardanelles in the Near East. Either he did not know much about them or he evaded my inquiries for further information. They appeared to be similar to the usual "common" shell, and he stated they contained a very large charge of "powder." The interesting fact is that they found some such type of special projectile necessary for use against shore fortifications. From observation and discussions it appears certain that the British Navy has adopted heads of 4-caliber radius for their standard 15-inch, 13.5-inch, 6-inch, and 4.7-inch projectiles.

In discussion at Whale Island with a number of gunnery officers it was stated that the present shell filler for major caliber A. P. projectiles is either amatol or T. N. T.

During my visit to Whale Island I noted, as elsewhere, considerable emphasis laid on smoke shell in the courses of instruction. I was not able to elicit any information on the subject, but apparently considerable attention is being devoted to it.

Range finders.—Practically all of the gunnery officers with whom I have discussed the subject prefer coincidence type range finders, primarily because they say only one out of every ten men can see stereoscopically, and that too much training of operators is required with stereoscopic range finders. Discussion with those who have given close attention to the subject indicate that under one condition, namely, when the atmosphere is hazy or misty, the stereoscopic range finder is the more accurate of the two. A rather extensive series of experiments is being conducted by way of comparison of coincidence and stereoscopic range finders at Portsmouth. I discussed the matter at some length with the lieutenant commander in charge. He

said they had recently completed the third series and were now engaged in the fourth series of tests. I asked him, among others, that if the stereoscopic range finder appeared superior in hazy and misty weather—that is, under the low visibility conditions which obtain in the North Sea—why it wouldn't be superior for them. The reply in practically every case was that the Barr & Stroud people thought that the coincidence type of range finders were the best and that that was what the Admiralty had decided upon.

Gas check pads.—Examination of the gas check pads on the 15-inch guns of the *Ramillies* indicates that they are very similar to those in our major caliber guns. Copper protection annular ring is employed on the forward side of the pad.

Rotating bands.—The rotating bands for practically all modern standard projectiles in the British Navy appear to be the same, having only one groove.

H. M. S. Agamemnon.—During my visit to Portsmouth I saw the battleship *Agamemnon* several times and talked at some length with the captain who was in command of her. He stated that it was necessary to conserve H. M. S. *Agamemnon* as a target vessel for firings during the next two years; that is, until one of the vessels becomes available as her relief as target vessel. Firings can not be conducted against the *Agamemnon* with larger than 6-inch guns. They have not been able to find any larger projectiles which will not go through her. The 6-inch projectiles which are used are filled with sand. They consider firing at the *Agamemnon* gives much more accurate results than firing at targets. Several gunnery officers stated that their battle targets, which are similar to ours, but which he stated had been modified to draw between 12 and 16 feet, were very unsatisfactory.

JAPAN.

AIRPLANE LANDINGS ON "HOSHO."

February, 1923.

A British officer, formerly of the Royal Air Force, who is now employed by the Mitsubishi Internal Combustion Engine Co. of Nagoya, has been provisionally engaged by the Japanese Navy to undertake experimental landings on the deck of the airplane carrier *Hosho.* These landings will probably take place early this spring.

This officer is known as a very skillful pilot, and his war record with the British Royal Air Force was excellent, he being credited with accounting for something like 37 enemy planes. While he is not lacking in skill or nerve, so far as known he has never had any experience with ship work. It is believed that he is far from satis-

fied with the Mitsubishi type plane with which he is supposed to make these landings. He is thoroughly familiar with this type of airplane.

The Japanese press reports that the Navy Department is offering prizes totaling yen 15,000.00 for aviators who successfully land on the deck of the *Hosho*, but it is thought this applies only to Japanese navy aviators, who will undertake to emulate the foreign officer's feat if he makes a succesful landing.

The first Japanese officer to undertake this is thought by the press as likely to be either Lieutenant Kira, aviation officer of the *Hosho*, or Sublieutenant Kamei, aviation instructor.

JAPAN.

CERTAIN SENIOR NAVAL OFFICERS.

February, 1923.

Recently five short articles appeared in the Japanese edition of the Osaka Mainichi on the general subject of certain ranking Japanese naval officers and their relation to Admiral Baron T. Kato, Prime Minister and Minister of Marine. The author of these articles is not divulged, but he is thought to be a naval officer. His comments are interesting and generally show an unusual degree of familiarity with his subject and fairness in handling it.

The substance of these articles is given herewith, with comments from a well-informed foreign source in Japan, in parenthesis.

The first article dubs Kato "King of the Navy" and characterizes him as a "short-tempered King" of cold exterior but warm heart; a man hard to know, reticent, and severe, but true to his friends. A man of good brain and broad vision. It is stated that it is very difficult to win the favor of Kato, and he is drawn to plain men of quiet tastes who talk little and accomplish things, and dislikes particularly "navy swells." Above all, he is honest and unselfish, but even so it is but natural that during seven years of service as Minister of Marine he should have formed about him a "Kato group" that controls the navy.

(The above is thought to be a very fair estimate of Admiral Kato. All classes concede his honesty, even when severely condemning his policies, which is most unusual as regards a man in public life in Japan. It is thought that Admiral Kato's reactions are primarily those of a naval officer rather than those of a politician.)

This article then takes up the three prominent vice admirals recently put on the waiting list, K. Moriyama, K. Yoshida, and T. Sato, supposedly by the "Kato group" influence.

Vice Admiral Moriyama, until 1 December, 1922, commanded the dockyard at Kure, is characterized as a bright man capable of doing things as well as talking, but a "naval swell." Having held many important posts, among them senior aid to the Minister of Marine (Admiral Saito), "the gateway to the highest promotion," he was looked upon as likely to receive the highest promotion. Ambition, talking, and "swell" ways caused his downfall.

(Vice Admiral Moriyama is personally very well known to me. He is able and energetic, but very opinionated and too often looks upon the wine when it is red, or the saki when it is warm.)

Vice Admiral Yoshida, it is stated, made a very good impression on Admiral Kato upon his return from heading an aviation mission to Europe in 1919, but soon thereafter for unknown reasons, he was placed on the waiting list and recently on the retired list.

Vice Admiral T. Sato is credited with having written, as a young officer, a very valuable book on national defense, with having had a great influence in the formation of the naval general staff, and, as a rear admiral, with having had much to do with the conception of the 8–8 naval program. When Kato first became Minister of Marine he made Sato vice chief of general staff, but later Sato disagreed with Kato over details of the 8–8 program. Also about this time Sato very actively associated himself with the Nichiren Buddhist sect, which adversely affected his reputation as a naval officer. More recently he opposed certain features of the Washington Conference, and thus he came to be eliminated.

The author then suggests that Kato, "if he possesses tender feelings at all," recommend to the Emperor the appointment of Vice Admiral Sato as a member of the House of Peers. (A certain number of members, not of the peerage, are appointed by the Throne.)

In the second article the author discusses "The three favorites of Kato." These, he says, are Vice Admiral K. Ide, Vice Minister of Marine (practically minister since Kato became Premier); Vice Admiral K. Okada, chief of material bureau; and Vice Admiral M. Osumi, chief of bureau of military affairs.

Says the author: "It can almost be said that present naval affairs are manipulated solely by these three men. The fact that Kato is able successfully to hold the navy portfolio besides the premiership is due to the backing of these three wise brains, and likewise that they can boldly and freely carry on the naval administration is due to the fact that they have above them an able minister, Kato. There exists perfect harmony between Kato and the three."

The opinion is further expressed that Kato's position as "king of the navy" is stronger than any of his predecessors because Kato has surrounded himself with men of the best intellect rather than men of traditional origin.

(Without question Vice Admirals Ide, Okada, and Osumi are in the first rank as regards ability and energy. All are good administrators, but have had little sea experience as flag officers.)

The next article discusses the probable successor to Admiral Kato as Minister of Marine. Opinion is expressed that it lies between Ide and Okada, with the chances favoring Ide. (This is only in case Admiral Kato retains the premiership).

Admiral Ide is characterized as a clear thinker, a man of prompt decision and having great love for the Navy. In recent years he has been rather irritable and quick tempered, but of late seems to have corrected these faults. If he gets through the present session of the Diet without compromising himself by losing his temper when attacked by the opposition, he will almost certainly become Minister of Marine.

(Vice Admiral Ide, at present Vice Minister of Marine, is a clear, forceful, rather reserved man. In contact with foreigners is easy and agreeable. His health, which was quite bad a year ago, seems much improved. He is the logical officer to take the post of Minister of Marine if Kato remains Premier.)

Vice Admiral Okada is described as very forceful and not afraid to take responsibility and an excellent parliamentarian. Has not been in the public eye so much as Ide, and for this reason might be more acceptable as Minister of Marine. However, his chances of succeeding Kato are small unless Ide makes some bad mistakes during the present session of the Diet. Later, if it should happen that Admiral Takarabe should become Chief of Naval General Staff (thought to be quite improbable), Okada would most probably become Minister of Marine.

(Vice Admiral Okada, at present Chief of Material Bureau, is a clever, forceful, agreeable officer. Has had very little sea duty as a flag officer. More interested in the shore end of the Navy than the seagoing end. Will probably hold many important posts on shore before retiring. Is now only 55 years of age, having been promoted to rear admiral when 45.)

Vice Admiral Osumi, the author says, is extremely bright and a very strong character, but his time for high office will come later. Is surely a future Minister of Marine. Has many friends and is considered very lucky. May possibly become Vice Minister if Ide is made Minister.

(Vice Admiral Osumi, at present Chief of Bureau of Military Affairs, is clever, easy in manner, and very active. Is perhaps a bit too much of a "good fellow." No sea experience as a flag officer. Is only 47 years of age.)

The fourth article takes of the remnants of the "Yamamoto group." (Admiral G. Yamamoto (retired), one time Minister of Marine, Prime Minister, etc., still alive and has a big influence both with the navy and Government. Admiral Kato, the present Premier, was of the "Yamamoto group," but since becoming Minister of Marine has built up his own "group." Kato has considered brains of more importance than clan, and consequently the Satsuma influence is not so all powerful in the navy now as formerly.)

The outstanding members of importance of the "Yamamoto group" are declared to be Admiral T. Takarabe, Admiral I. Takeshita, and Vice Admiral Kanji Kato. These men, while all strongly pro-Satsuma, still are strong enough to stand on their own regardless of clan backing. Admiral Takarabe is thought to be a possible chief of naval general staff (I do not agree with this), and surely will be for a long time a member of the War Council as Gensui.

(I do not hold Admiral Takarabe in such high esteem, but recognize his very strong influence, he being the son-in-law of Admiral Yamamoto. Is now commander in chief at Yokosuka. Has had no sea experience to speak of since reaching flag rank 14 years ago. As Vice Minister of Marine during the naval scandal of 1914 his character was rather badly besmirched.)

Admiral Takeshita is said to be high in favor of the royal family, and therefore sure of a long and distinguished career.

(Admiral Takeshita, at present commander in chief of the combined fleet, is thought to be one of the very ablest officers in the Japanese Navy. Is progressive, forceful, and a real leader. Speaks English fluently and is decidedly friendly toward America. Would make an excellent war commander.)

Vice Admiral K. Kato is held in very high esteem by the author. Is held to be exceptionally able and clearheaded. A man of unlimited capacity, strong-minded, and farsighted. Somewhat argumentative. It is rumored that he does not now get along well with Admiral T. Kato, and some anxiety is felt by his friends as to the future.

(Vice Admiral K. Kato, at present vice chief of naval general staff, is without question clever and suave, but he does not inspire confidence. Impresses one as often "playing to the gallery." Is not considered an outstanding figure in the Japanese Navy.)

Allied with the Yamamoto group, and also with the Kato group, are Admirals K. Nomaguchi and S. Tochinai. Both are held to be sound, dependable admirals, but of no special characteristics, and no chance of being of great naval importance.

The final article takes up the leaders of the "Independent group." The outstanding members of this group are Admiral G. Yamashita and K. Suzuki. These two, the author thinks, are model officers.

(I am inclined to agree.) They are strong, independent, and forceful; naval officers always rather than politicians.

(Admiral Yamashita, at present chief of naval general staff, has been vice chief of naval general staff, commander in chief of a first-class naval station, and commander in chief of the fleet, so he has about covered all the purely naval jobs worthy of note. He is not a politician, but a very strong, silent, forceful officer. Commands the respect and admiration of those whom he comes in contact with. Would be a credit to any naval service. When he gives up his prseent post will probably remain on as military counselor, but without political influence.)

(Vice Admiral K. Suzuki, at present commander in chief of Kure naval station, is one of the very ablest flag officers in the Japanese Navy. Quiet, forceful, energetic, and clever. He must be recognized as one of the officers due for great prominence in the next ten years. (He is now only 55 years of age.) Though a Satsuma man, he is not tied up with the Satsuma group. Is material for future chief of naval general staff or Minister of Marine.)

The article concludes with discussion of the younger men of prominence in the Kato group. These are Vice Admiral S. Horiuchi and Rear Admirals Furukawa, Nomura, and Kobayashi. These may be expected to progressively fill the posts in the navy of great and greater importance. They are all able, progressive, and ambitious.

(One of the most interesting features of these articles is the side light thrown on the Japanese naval attitude toward sea service generally and even high command afloat. In discussing future posts of importance, command of the fleet or parts of the fleet are not even mentioned. An ambitious Japanese naval officer considers almost any job in Tokyo preferable to any job outside of Tokyo. The strings are unquestionably pulled in Tokyo. Command of the big Japanese naval stations are apparently valued as commands, not necessarily by their comparative value as stations, but, inversely, as their distance from Tokyo.)

JAPAN.

EMPLOYMENT OF FLEET.

January, 1923.

Note: As Reported in the Japanese Press.

The combined Japanese fleet, less such ships as are under repair, was to assemble January 17, 1923, in Ariake Bay, Southern Kyushu. Ships were to proceed there independently. There ships are to be

inspected by the commander in chief. (Apparently inspection in both the first and second fleet will be conducted by the commander in chief of first fleet, Admiral Takeshita.)

On or about January 23, the fleets will leave Ariake Bay. First fleet will cruise down the Southern Islands of Japan (H. O. chart No. 2,194) toward Formosa, stopping at Nakagusuku Bay (lat. 26° 15′ N., long 127° 50′ E., approximately), for fuel and water. Thence north to Sasebo, where the fleet will again take fuel and water. From Sasebo down the western coast of Kyushu to Kagoshima Gulf, thence to Beppu Bay, via Bunge Channel, arriving about the middle of February. From then until early in April "first-term" training will be engaged in. (Probably elementary target practice, boating, ship drills, etc.) This takes place in the Inland Sea with the fleet based on Age-no-shiyo (lat. 33° 55′ N., long. 132° 18′ E., approximately), Yashiro Island. (Nothing is known of this place.)

The second fleet, leaving Ariake Bay about January 23, will proceed to the Inland Sea via Bungo Channel and engage in "first-term" training in Hiroshima Bay, with Kure as a base. The latter part of February it will proceed via Southwestern Islands of Japan to Formosa, returning to Kure early in April and joining the first fleet there.

The combined fleet will then proceed to the eastward, stopping at Ise so officers and men may pay their respects at the Ise Shrine. (This is the most sacred spot in Japan, for here dwell the spirits of all the departed Japanese Emperors from Jimmu Tennu, the first, to Meiji Tennu, the last, according to Japanese teaching. Here all officials go to worship the spirits of the imperial ancestors, and here with great ceremony these spirits are informed of all important events happening in Japan and decisions made affecting the Empire.)

From Ise the combined fleet will proceed to Tokyo Bay, for rest and liberty. Ships will then proceed to their home yards for repairs.

The latter part of May the fleets will reassemble at Sasebo, and for two or three weeks will engage in various practices (probably including mining practice) around Sasebo and Chinkai.

The latter part of July the combined fleet will proceed to Sayeki Bay on Bungo Channel and engage in the "usual" war practices. (Long-range battle practice probably. This is usually held in Bungo Channel.) When this is completed, ships will disperse for summer holidays.

In August combined fleets will proceed to the Sea of Japan and up to Hokkaido. Here night torpedo-defense practice and other exercises will be held.

At the end of September the fleets will be formed into two maneuvering fleets and grand maneuvers will be held in the Sea of Japan and south to Formosa.

Grand maneuvers will end by the middle of October and may be followed by a naval review by the Prince Regent.

It is probable that the combined fleet will come as near Tokyo as possible (Shinagawa) in the late autumn, when the wedding of the Prince Regent takes place.

NOTE.—In a conversation with the senior aid to the Minister of Marine, it was asked if the newspaper accounts of the prospective movements of the fleet were correct in essential points. He replied that these accounts were newspaper stories only, and not based upon anything given out by the Navy Department. While he did not say these accounts were not generally correct, he intimated that they contained errors, which is doubtless true.

JAPAN.

VARIOUS NAVAL NOTES.

January, 1923.

Note: As Reported in the Japanese Press.

The plans for the completion of the *Amagi* and *Akagi* as airplane carriers have been completed and work was restarted on the *Amagi* January 19, 1923.

The papers state that details regarding these ships are carefully guarded, but that it is thought they are to displace about 26,000 tons when completed, to be armed with several 8-inch guns located forward, to have speed enough to maneuver with the fleet, to have airplane "take-off" forward, and landing deck aft, and to have a large gasoline stowage capacity.

The papers also state that Japan is allowed one more airplane carrier, but her construction is not to be undertaken until lessons can be drawn from the *Amagi* and *Akagi*.

RECENT AVIATION ACCIDENTS IN JAPAN.

The below aviation accidents have recently been noted in the press:

On January 9, 1923, Lieut. Takenaka Rintaro (Japanese Army) was piloting an airplane over the seashore at Muramatsu when a sudden squall drove the machine against a captive balloon. The machine crashed, killing the pilot.

On January 9, 1923, a plane flying between Tokyo and Osaka for the Japanese newspaper Asahi, crashed from a height of 100 meters, and both pilot and his passenger were very seriously injured. Engine trouble is assigned as the cause of the accident.

On January 11, 1923, a plane in the same service as above ran into a telegraph pole at Fukugawa, where a forced landing was being made. The machine was wrecked and the aviator injured.

On January 11, 1923, a plane making a flight in Chiba prefecture crashed from getting out of control and was wrecked, but the aviator was not injured.

ASTRA TYPE, NONRIGID DIRIGIBLE TO ARRIVE IN JAPAN SOON.

The Astra type nonrigid dirigible purchased in France, which is christened the *No. 1 Dirigible*, is soon to arrive in Japan with materials for shed, etc., and will be assembled probably at Oppama (Yokosuka). It is expected to make its initial flight to Tokyo in April, 1923.

The following description is given:

Length	meters	80
Diameter	do	18
Height	do	22
Capacity	cubic meters	10,700
Seating capacity, basket		7
Motors (Sunbeam)		2
Equipped with wireless telephone and telegraph, machine guns and bombs. The weight of this equipment is about 2,000 kilograms.		
Speed (nautical miles per hour.)		50
Duration of continuous flight	hours	10
Height attainable	meters	30,000
Cost	yen	350,000
Purpose, for reconnoitering and scouting.		

The sister dirigible to the S. S. type which was destroyed some time ago will be completed by the end of February, and will be known as the *No. 3 Dirigible*.

PROJECTED FLIGHT FROM YOKOSUKA TO OGASAWARA (BONIN ISLANDS) AND RETURN.

The Yokosuka Aviation Corps will attempt, about the middle of February, 1923, a flight from Yokosuka to Ogasawara and return. Large reconnaissance hydroplanes will be used and naval vessels will patrol the route to be followed. Radiophones installed on these hydroplanes are said to be working very satisfactorily.

If this flight is successful, a flight will later be attempted to Formosa.

NOTE.—To date nothing further has been received regarding these flights.

BURSTING OF 16-INCH GUN, JAPANESE NAVAL PROVING GROUND.

On January 16, 1923, while testing a new 16-inch gun at Kamegakubi proving grounds (this is the old naval proving ground near Kure), on the last round the breech block gave way. Several men were injured and considerable damage was done to near-by buildings.

No details of above are available.

JAPANESE SUBMARINE "NO. 59" LAUNCHED AT THE KAWASAKI DOCKYARD ON JANUARY 18, 1923.

The Japanese submarine *No. 59* was launched at the Kawasaki Dockyard on January 18, 1923.

Factory No. 1, Wantanabe Iron Works, Chiyomachi Fukooka, a secret contract factory of the navy, had an explosion on 11 January, 1923, in which 11 men were injured. They were working on some "oxegen machinery." Experts from Sasebo hurried to the scene to investigate the cause of the explosion. The cause of the explosion and the nature of the product being made were not made public, and an effort was made to hush up the news that there had been an explosion.

NOTE.—Absolutely no information confirming or elucidating this can be obtained. It is thought it was probably a hydrogen explosion from submarine batteries being made.

FLIGHT, YOKOSUKA TO HACHIJO-JIMA AND RETURN.

On February 6, 1923, *Nos. 14* and *15* "F–5" type naval hydroplanes belonging to Yokosuka Aviation Division, flew from Yokosuka to Hachijo-jima Island and return, stopping two hours at Hachijo-jima. This was in preparation for flight to Ogasawara (see reference). Hachijo-jima is about 140 miles south of Yokosuka and the flight each way took approximately two hours.

JAPAN.

WORK OF BRITISH NAVAL AVIATION MISSION.

February, 1923.

The British aviation mission of 30 former British Naval Air Service officers and warrant officers began work in Japan February 1, 1921, under contract with the Japanese Admiralty and with commissions in the Japanese Navy, to organize and train a Japanese Naval Air Service.

The mission expects to complete its work about the first of 1924, although it may be considerably later. According to an informant, when he went out there the Japanese had practically no naval air service worth speaking about. Now, exclusive of the few not very good machines which the Japanese already had, their naval air service has about 300 planes, bought by the mission in Great Britain. These planes include land machines, sea planes, and amphibians. Between 100 and 150 may be classed first-line machines, the remainder being training and experimental planes. The machine guns used are Vickers for the fixed type, and Lewis for the movable. The tor-

pedoes used by the torpedo planes are of the Japanese naval type, made in Japan, weighing 1,000 and 1,500 pounds. The mission hopes to shortly begin experimenting with a purely naval aircraft type of torpedo, which it is hoped will meet the requirements of the service better than the adopted naval type. The bombs which the mission uses are both over and under 500 pounds in weight.

The mission had nothing to do with the Japanese Army Air Service, which is being organized by the French, as is the Japanese Army in general on the basis of the experience which the French gained in the late war. The aim of the mission and its work has been to organize, equip, and train the nucleus of a Japanese Naval Air Service. Informant considers that the time permitted by the contract with the Japanese Admiralty is far too short to build up a service sufficient for the needs of the Japanese Navy—he considers that the present service is quite insufficient for those needs—but he expects that when the work of the commission is over the Japanese will have a sufficiently well-organized and highly trained nucleus, which they themselves may expand to any extent they desire without any great necessity for further foreign trainers.

In view of the limited time at their disposal, the mission planned and carried out its training and organizing work on as intensive a scale as that employed in Great Britain during the war. Training was and is being given in practical flying and all its phases in the upkeep of aircraft, aircraft engines, and accessories; in torpedo-plane work; in experimental and actual operation of machine guns, torpedoes, and bombs, and the sights for these various weapons; in air photography; and in medical work. The training included flying both in independent air formation and in cooperation with the Japanese Fleet; it also included naval spotting for submarines and general reconnaissance work.

The personnel of the Japanese Naval Air Service at present totals about 5,000, but of these probably less than 100 are pilots. There are no purely Japanese-designed aircraft engines, all those being used having either come from abroad or being manufactured in Japan under foreign patent. There are a few Japanese-designed airplanes, but informant complains that the Japanese, up to the present, have been too interested and shown too great a tendency to overconcentrate on theory and design as opposed to operation and practice, which he considers more necessary at the present stage.

In the first year of the mission's work there, 3,000 hours of time were spent in the air. During that time there were no fatal accidents to the Japanese being trained. The mission did its work at two Japanese naval air stations, one at Kasumigaura, on an inland lake, which was entirely built under the direction of the mission and

now has a staff of officers and men of 1,000. The other station used was Yokusaka, on the sea near Yokohama, where there are about 700 officers and men.

The machines in the Japanese Naval Air Service include tiny, swift reconnaissance and fighting machines up to 6-ton seaplanes, and individual engines go up to 300 horsepower in size.

FRANCE.

CERTAIN IMPORTANT QUESTIONS WITH REGARD TO POLICY OF THE PRESENT GOVERNMENT.

February, 1923.

On about February 14, 1923, there were submitted to a member of the French cabinet eight leading questions calling for answers on highly important subjects.

After studying these questions for about six days one of the foremost members of the cabinet, and presumably assisted by one or more of his colleagues, wrote the answers. There is good reason to believe that these answers were written with the full knowledge that they would reach the British cabinet. Questions and answers are believed to be of much greater importance, because of having been handled in this subrosa manner, than if they had been (particularly the answers) written with a view to publicity.

Following each question propounded is the written answer as related.

Question 1.—Is France prepared to proceed along the lines indicated by her policy in the Ruhr and Rhineland without the support of Great Britain and, if necessary, in defiance and opposition to England?

Answer to Question 1.—France is prepared to follow her policy in the Ruhr and Rhineland without the support of Great Britain, and even in opposition to her. It must not be forgotten that the French Chamber manifested a real enthusiastic spirit in favor of the expedition into the Ruhr, and that the Senate, which follows more closely foreign affairs, voted unanimously in support of the speech of President of the Conseil (Poincare). The opinion in France is that our Allies have completely abandoned us and are not interested in the problem of reparations and that France must save herself, if she does not wish to perish, alone.

Question 2.—If Great Britain, and possibly America, make diplomatic protest against France's policy toward Germany, what will be the attitude of France?

Answer to question 2.—It would not be understood in France why America and England should make diplomatic representations to France regarding her politics. It would not even be understood in France on what grounds these representations would be justified, or on what grounds they would be founded. The treaty of Versailles recognizes the claim of France to reparations. Germany refuses to make reparation. France did everything in her power to induce her Allies to bring pressure on Germany obliging her to execute the treaty. The majority of French citizens believe that it was the tactics of the Allies that forced France to take the decision to enter the Ruhr.

On the other hand, the French bourgeoisie class as well as the people are hostile to any idea of annexation. France believes that it is her unity that makes her force in Europe, and she will not consent to weaken this unity by annexing a country which would be continually in a state of protest. Not from any point of view does France see where America or England could give grounds to make diplomatic representations. Such representations exasperate the French nationalist sentiment to the extent of determining, perhaps, another Boulangisme.

Question 3.—What is her alternative policy if such opposition should proceed to the point of diplomatic protest and threat of rupture of amicable relations.

Answer to question 3.—A rupture with Great Britain would have no other effect than to push France to make an approachment with the enemies of Great Britain, which are Russia and Turkey, which have been for a long time antagonistic, and who will remain so in the future, but who are actually united by the desire to combat English influence in Asia.

Question 4.—Is France prepared to make war alone?

Answer to question 4.—France does not want war with Germany; she does not believe that events will lead to war. But it is necessary to keep in mind the state of mind of the French people who only see one thing: That her territory has been devastated, that she has not received the indemnity which she has a right to and which she was promised, and that she is crushed with taxes. If war with Germany breaks out, all France will answer the call, as in 1914, with the sentiment that she is fighting for her rights and for her security.

Question 5.—The only likely combination against France in a military sense would be Germany and Soviet Russia. Has France taken steps to thwart any such combination?

Answer to question 5.—The sentiment which predominates in the best centers of the French Government is that Soviet Russia is not

in a position to fight for any length of time against a powerful and well-equipped army. Also, Russia would not look with pleasure upon the weakening of France. Such a weakness would only work to the benefit of England, and it is generally understood that it is against English influence in Asia that Russia wishes to fight.

Question 6.—What is the attitude of the French bankers of the Loucheur type in regard to France's pressure on Germany?

Answer to question 6.—The Bank of France, the Comite des Forges, and big industry approve the politics of the French Government. It can be even stated that it was with the pressure of the big industries that the Government decided to act. The metallurgie francaise arrived where it was only producing 30 per cent of its capacity due to lack of coke, because of Germany's bad faith. The big industries were the first to declare "this can not continue" and brought on energetic action.

Question 7.—Is it not true that an understanding is about to be arrived at between German and French metallurgical interests?

Answer to question 7.—Several conversations took place before the coming of actual events between the French industrials and the German industrials with a view to arriving at a general understanding and coming to an arrangement on this subject. It appears that Mr. Hugo Stinnes gave the impression that an understanding could not be arrived at unless the French gave over control of the left bank of the Rhine. This was taken to be a regular case of blackmail and an inacceptable condition, and no French Government would have been strong enough to have remained in power when the moral disarmament of Germany had not become an established fact. Many industrials think that France's entry into the Ruhr will facilitate the Entente between French iron and German coal. It may be said that this Entente is hardly yet in the act of being prepared, though many think it is, and think also that it will be accomplished because it is logical and unavoidable.

Question 8.—How strong is the Little Entente at the present moment and will its members stand together in supporting France?

Answer to question 8.—The political union is intimate and close between France and the following three powers: Poland, Czechoslovakia, and Yugoslavia. Poland and Czechoslovakia owe their existence to France. Serbia has called upon France for every means looking to her rapid and brilliant modern evolution. There is no doubt whatever as to the attitude of these three powers in case of a European conflict.

FRANCE.

EXPERIMENTAL GUN OF LARGE CALIBER.

February, 1923.

The following is the translation of an article which appeared in the Matin dated 23 January, 1923:

THE HUGE RUELLE GUN.

We have already announced that the naval gun foundry of Ruelle had just finished a huge gun the total weight of which, including the cradle and the railway mount, amounts to 230 tons.

The designs of this gun were made in 1918, at a time when we thought of outdoing the famous "Berthas." Its caliber is 340 millimeters (13 4 inches); its range is designated as from 70 to 75 kilometers (43.5 to 46.6 miles).

Having been delivered recently to the Ministry of War, the piece in question constitutes an experimental gun which will be tested at Quiberon, where the artillery tests are now made. This gun can only be utilized for firing on stationary terrestial objects.

The gun in question is one of the guns which were designed by General Bourgoin toward the end of the war. It is 60-calibers long and is not one of those guns which were constructed by radial expansion.

This gun, though made at the French naval gun foundry of Ruelle, is actually for the French Army.

It constitutes what Ingénieur en Chef de 2° Classe d'Artillerie Navale Màtin designated as a "Semi-Bertha."

This gun has not actually been removed from Ruelle, as there is some difficulty in effecting the transportation.

The range as stated by the Matin to be from 70 to 75 kilometers is probably approximately correct. It naturally can not be known definitely until the gun is tested.

FRANCE.

INSIDE VIEWS ON TURKISH POLITICS.

February, 1923.

The apparent incoherence of Turkish politics with respect to France and England and the very sudden changes in the Turkish attitude may perhaps be somewhat explained by the following facts, which for various reasons have been kept quiet by both France and England.

The Berlin Government has at Angora as their representative, Julius Stern, the well-known German orientalist, who communicates

directly wtih de Rosenborg, the German Minister of Foreign Affairs, and whose mission is to alternately stir up the anger or the fear of the Ottoman National Assembly by representing France and England, or either of them, as ready to yield everything, or on the other hand to be completely unyielding.

The Angora Assembly is literally surrounded by sovietic missions, all of them formed by the Special Institute for Oriental Propaganda of Moscow, including notably half a dozen Afghan delegates who are acting as Nationalist exciters and continually urging that the assembly break with England.

Ismet Pasha, Rechad Pasha, and Maeem Pasha, all of whom have French leanings, have been consistently advocating an amiable settlement with the allies.

Tchitcherine, who went from Berlin to Lausanne with the evident intention of exciting the Turks against both England and France, was visited at Lausanne by a number of prominent French metallurgists and bankers, and as a result of these visits his attitude became completely reversed, and early in February he gave instructions to Moscow that orders be sent to the Angora representatives with a view to calming down their zeal. When he left Lausanne, Tchitcherine went back to Berlin and under the influence of German promises and threats again radically changed his attitude.

The French Government holds proof that the stock exchanges of Zurich, Amsterdam, and to a lesser extent Paris and London, have received big orders on behalf of mysterious clients, these orders having principally been placed by two small Levantine brokers in Paris and other rather second-class intermediaries. It would appear that both the Turkish and Russian missions at Lausanne have been quite consistently speculating throughout the conference, and apparently are still continuing to do so.

The French have been very carefully watching these very interesting moves which are continually disturbing and perverting the real political situation. It is their feeling, however, that the sound elements will prevail and that peace will ultimately be signed.

INDUSTRIAL RELATIONS BETWEEN FRANCE AND RUSSIA.

For the past fortnight the contact between French financial and industrial groups and the officious delegates of the Soviet Government has become more intimate. Progress has principally been made in the negotiations for the reestablishment of the company "Le Platine" (Platinum). In addition, some rather important negotiations are going on for the extension of French interests in the region of the Donetz River.

The Russian delegates are showing a very conciliatory spirit that reflects their urgent economic needs. The great obstacle against

the consummation of any agreement lies in the lack of security for transportation. It would appear, however, that all questions are now examined by the Russian delegates from a purely economic viewpoint and without any political aims.

FRANCE.

NAVAL PROGRAM.

February, 1923.

The French naval program which M. Raiberti, the Minister of Marine, has been authorized by the council of ministers to prepare contemplates, it is understood, the reconstruction of the French Navy in 20 years. It will be based on the ratification of the Washington agreements.

The number of battleships of the line allocated to France in those agreements will not be exceeded, and no battleships of the line will be placed on the stocks before 1932. The tonnage proposed by France at the conference for the other types of ships—light cruisers, torpedo boats, submarines, and sea-plane carriers—will be provided for; namely, 360,000 tons of light surface vessels, 65,000 tons of submarines, and 60,000 tons of sea-plane carriers.

In the first eight years 6 light cruisers, 15 destroyers, 24 torpedo boats, and 34 submarines will be constructed. A credit of 2,400,000,000 francs for this first part of the program will be divided into annuities of 300,000,000 francs, to cover the cost of construction during the next eight years. By this method the navy will be maintained and a further increase of credits will be avoided.

ITALY.

REORGANIZATION OF AIR SERVICE.

February, 1923.

At a recent cabinet meeting, attended also by three prominent generals of the army and three admirals of the navy, and presided over by Mussolini, the difficult problem of the reorganization of the Italian Air Service was considered and settled.

A commissariato of aviation has been created with Mussolini at its head as high commissioner and the Hon. Finzi (at present Undersecretary of the Interior) as vice commissario.

It is to have charge of all aviation activities in Italy, including army, navy, and commercial. A commissariato is under no ministry, deals directly with the other ministries, and in power and authority is almost as strong as a ministry.

In addition to subdivisions for (1) the army air service, (2) the naval air service, and (3) experiments, armaments, and specialists, there is provided a subdivision for "The independent air force."

This air force is to be organized into six wings, each wing being subdivided into groups, each group into squadrons, and each squadron into flights.

The six wings will be as follows:

(1) The day bombardment wing.

(2) The night bombardment wing.

(3) The pursuit wing.

(4) The special wing (aerial photos, machine guns, radio, aerial torpedoes, seaplanes, dirigibles).

(5) The aerial defense wing.

(6) The colonial aviation wing.

Each wing will consist of two or three groups and will be commanded by an officer with the rank of colonel. Each group will consist of from two to four squadrons and will be commanded by an officer with the rank of major. Each squadron will consist of at least three flights and will be commanded by an officer with the rank of captain. Each flight will consist of from four to six machines piloted by officers with the rank of first and second lieutenant and will be commanded by an officer with the rank of lieutenant.

The commissariato of aviation has directed that all the navigating personnel belonging to the Italian Air Service must make a designated number of flights each year, and that the directing officers, chiefs of divisions, and other senior officers of aviation will use the airplane as a normal means of travel in making official trips.

At a second cabinet meeting held 23 January Mussolini put forth his aeronautical program as follows:

After making an accurate examination of the great importance that aeronautics is assuming as a military and civil factor in all the nations of the world; after having assembled a council of admirals and generals to consider in detail this important problem; after having obtained the views and program of the Italian National Aeronautical Association and of various Italian technical, professional, and sportive aeronautical associations I have concluded that Italian aeronautics, with the exception of that of the Navy, is in a state of insufficiency and inefficiency. In order to build up an aeronautical force in Italy I have combined all aviation activities into a commissariato of aviation.

After making a detailed comparison of our aeronautical strength with other nations it is necessary to actuate immediate reforms which will, within the limit of our financial possibility, give to the country an aeronautical organization sufficient to guarantee the national defense and to counterbalance any possible aerial offensive against the country.

Abroad all States are giving an enormous importance to the aerial factor, and after a study of their activities we have arranged them in the following order with respect to their aeronautical potentiality.

France, United States of America, England, Germany, Russia, Belgium, Yugoslavia, without taking into consideration the South American States, which are systematically and seriously organizing themselves aeronautically.

France's army aviation consists of 14 regiments with a total of 134 squadrons with 1,340 armed machines first line; 2,500 machines in reserve. In addition, France has completely organized an aeronautical industry made up of 50 important factories immediately available for the construction of airplanes, engines, carburetors, instruments, aeronautical and signalling equipment.

Mussolini then discussed the aviation activities of Great Britain and showed how aerial squadrons were being used as colonial police forces, permitting a great reduction in ground forces in the colonies. Furthermore, England is systematically providing for future aerial communications and for the full cooperation of a powerful aviation with her Navy.

While Germany can not openly organize a military aerial fleet, nevertheless Germany is systematically and studiously preparing a net-work of aerial routes and gathering experimental data as to loads, speed, and autonomy of aerial machines which can be rapidly and completely armed, and Russian factories are now undertaking aviation construction directed by German aeronautical engineers and technical experts.

Continuing he stated:

The efforts being made by the nations for forming an air force is the most eloquent proof of the fact that a powerful and efficient air arm is a necessity. I therefore intend to make a rapid reorganization of our air activities to bring them up to the necessary strength and efficiency in the shortest possible time and to put it on a solid footing.

At present the army air service has 4,019 efficient engines, 250 efficient airplanes, 14 aviation fields completed and 16 being completed. All of this material is to be used. My program calls for 720 new machines and the formation of the groups into wings. A sum of 280,000,000 lire for the fiscal year 1923–24 is necessary. Forty-two million will be made immediatel available, which, with 78,000,000 still available for the current fiscal year, I propose to initiate the execution of my program at once.

The council of ministers approved this.

The Fascisti program has always insisted on an up-to-date, efficient and sufficiently large military aviation, backed up by a civil aviation, aided, protected, controlled, and encouraged by the Government.

The Hon. Finzi, formerly Deputy, now Undersecretary of the Interior and named vice-commissario of aviation, Mussolini's right-hand man in the Fascisti Party and Government, the directing spirit of all activities in and out of Parliament for aviation, served during the War at the front as pilot, and piloted D'Annunzio on the famous flight over Vienna.

Before making a decision as to his construction program, Mussolini summoned the aeronautical attachés from England, France, and other European countries in order to have first-hand information of the aeronautical preparations in Europe.

The new organization is highly satisfactory to the aeronautical industrial concerns and to pilots and other civilian personnel who served in the air service during the war.

General Diaz, Minister of War, and the general staff of the army have been opposed to any organization which takes the training, organization, and preparation of the army or military air squadrons away from the War Department, not only on account of the dual responsibility established, but also on account of the complication in the supply, maintenance, and improvement of military aviation equipment. The army air service officers are divided. Some think it has not gone far enough and desire an Air Ministry with its own general staff, just as the army and navy, while others are convinced that General Diaz's ideas are the best.

Admiral Thaon de Revel, the Minister of Marine, the general staff of the navy, and the naval air service have always insisted that the navy should have full and absolute control over the organization, training, and operation of all air service personnel with the navy.

All officers approached, however, believe that with the Mussolini Government, in whom they have the greatest confidence, will terminate a long period of drifting, during which there has been a division of effort, lack of cooperation, and failure to obtain even sufficient funds; that Mussolini is spurred on by an intense patriotism; that his main problem at present is the building up of an adequate air force; that he at the head of the Government can better accomplish this task; and that the army and navy will not lose anything, but, on the contrary, will gain.

Italy is not now in position to begin constructing large numbers of planes except obsolete types or types that soon will be. The army has been systematically developing during the last eight months new pursuit, bombardment, etc., specialties. Three samples of the best designs submitted for each specialty are now under construction, to be completed in two or four months; then to be tested and retested before they could be produced in even sufficient quantity to reequip existing squadrons.

The new organization contemplates commissioned officers for airplane pilots. At present many of the pilots are noncommissioned officers, as was the practice during the war.

Two hundred and eighty million lire is a large increase over the amount appropriated for aeronautics during the current fiscal year, viz: Ninety million army, 25,000,000 civil, and 11,000,000 navy, or a total of 126,000,000 lire.

It has not been possible to get reliable figures on what increase in personnel and squadrons will be proposed.

ARGENTINA.

NEGOTIATIONS FOR CONSTRUCTION OF POWDER MILL.

January, 1923.

The Argentine Government has definitely turned down the du Pont-Nobel offer to construct a powder mill in Argentina.

It is reported, but not confirmed, that the powder mill is to be financed by half French and half Argentine capital and that the French Government powder factory at Toulouse is to be dismantled and rebuilt in Argentina.

Another report is that the Luxembourg Engineering Co. is to construct the factory.

The following information in regard to powder factories for Argentina was obtained from an official of the army arsenal who has jurisdiction over such things:

The proposed powder mill to be built in Argentina must be built by a private company, the stock to be held partly by Europeans or North Americans and partly by Argentines but no stock could be held by other South Americans. This powder mill shoud be large enough to make the powder necessary both for the army and navy in time of war, but would have the privilege of making commercial and sporting powder in time of peace. The Argentine Government proposed to make concessions in the customs duties for the necessary machinery of this factory and for such raw materials that could not be obtained in the Argentine. The Government would also place tariff duties on commercial and sporting powders imported into the country in order to assist the proposed mill. The Argentine Government would forbid the public sale of the shares of this company and would retain an option to purchase any shares which might come on the market.

The contract for powder for the army, submitted to the Argentine Government by the du Pont Co., seems to have very little chance of ratification.

A short time ago there was much discussion in regard to the shortage of powder in the country, now it is never mentioned.

It is rumored that the 10 M boats, that just arrived from Germany, brought over a supply of powder for the Argentine Government. This has not been confirmed.

ARGENTINA.

PRESENT CONDITION AND FUTURE PROSPECTS OF MERCHANT MARINE.

January, 1923.

The operations of the Argentine merchant marine are confined almost entirely to the coastwise trade of Argentina and the neighboring countries bordering on the River Plate, Urugay, and Paraguay,

although a small commerce is carried on by ships under the national flag with the southern ports of Chile and Brazil. A long but intermittent local propaganda has advocated various measures, such as bounties and subsidies, for national ships and shipyards, with the object of building up an overseas merchant marine, to be used in the transport of the extensive foreign trade of the country; but as yet this agitation has not achieved tangible results and overseas operations by national ships have been confined to a few small sailing vessels and occasional trips of Government transports. Although materials for ship construction are allowed to enter the country free of duty when they can not be produced by Argentina in sufficient quantity or quality to serve the purpose, local ship construction has been confined to the building of small craft. It would seem that the total absence of suitable construction materials and facilities, as well as the relatively undeveloped state of the manufacturing industries in general and the scarcity of skilled labor and competent technical personnel, would make Argentina unsuited at present to produce ships in competition with more favorably situated countries. On the other hand, the inducements extended by the Government to ship owners to place their tonnage under the national flag have not been such as to produce results except in the case of the coasting and river trade, which is reserved to ships of Argentine registry. This reservation, however, has furnished a field for the existence of a national marine, the possibilities of which are increasing rapidly as the outlying portions of the country become more fully developed and as the ports and harbor facilities of these regions improve.

Argentina has not as yet granted direct subsidies or bounties to encourage the growth of the national merchant marine, in spite of the propaganda directed to this end.

More than one-half of the Argentine merchant fleet is owned by the Government and three large local shipping companies, the S. A. Importadora y Exportadora de la Patagonia, the "Argentina" Compañía General de Navegación, and the Campañía Argentina de Navegación. The fleets of the Government and the first two of these companies are engaged in the trade between the southern ports of Argentina and Buenos Aires while the fleet of the last company is employed largely between the different ports of the River Plate system. The general traffic of the country, both cargo and passenger, is handled by these four fleets, the balance of the merchant marine being employed largely for special purposes, such as lighters, tugs, and fishing. Some ships are also operated by companies to transport commodities for their own use.

The Argentine Government owns and operates the fleet of 14 ships totaling 48,000 tons, 5 of which are tankers with a combined tonnage of 18,000 tons, which are used to transport petroleum from

the Government oil fields in Comodoro Rivadavia to Buenos Aires. The other ships are used for the transportation of Government supplies and some general cargo to the south and return loaded mainly with Patagonian wool.

The extensive general cargo and passenger traffic of the many navigable rivers included in the River Plate system is largely handled by the Compañía Argentina de Navegación (N. Mihanovitch) and its allied companies, in which the Royal Mail Steamship Lines are said to be interested. The headquarters of this company are in London, but it has general offices and a local board of directors in Buenos Aires. More than 60 cargo and passenger ships, and over 60 tugs as well as a great number of lighters and smaller craft are included in the fleet which it operates, some under the Uruguayan and some under the Argentine flag. Most of the cargo and passenger ships are constructed for river service and that portion of the fleet under the Argentine flag comprises about 60 steamers with a total tonnage of about 48,000 tons of which 16 ships are over 1,000 tons with a combined tonnage of nearly 30,000 tons.

The most profitable field for future expansion of the Argentine merchant marine will probably be in the coast traffic between Buenos Aires and the southern ports. Patagonia, which is a general term for that part of Argentina south of the Rio Colorado in which most of these ports are located, is at present sparsely populated and devoted mostly to the raising of sheep. There is, however, a Welsh agricultural colony at Trelew, just south of Puerto Madryn, which will probably become the center of an extensive agricultural development. The discovery of rich petroleum deposits at Comodoro Rivadavia and Neuquen and their exploitation both by the Government and by private companies, and the Government program of a system of Patagonian railways from the ports to the interior which is now under way, is giving an impetus to the general development of the region, the effects of which can already be seen in the increased volume of both passengers and freight carried by the ships on the Patagonian run and the improvement in the service offered. One of the ships of the S. A. Importadora y Exportadora de la Patagonia, the *José Menendez*, is a new 4,570-ton steamer of modern and luxurious construction now on its maiden voyage. The "Argentina" Compañía General de Navegación has announced the addition of two large new steamers to its fleet, and a new company, the Austral Steamship Co. (Ltd.), is now being formed with local capital to enter this trade.

Even these improvements in ocean transportation will probably prove inadequate to handle the great volume of traffic which it would seem should follow on the completion of the railway program and the full development of the petroleum workings. Large sections hitherto relatively inaccessible will be opened up, the products of

which, together with the augmented demands of the increased population, should offer a profitable and expanding field for the coastwise merchant marine.

ARGENTINA.

TARGET-PRACTICE NOTES.

January, 1923.

In December the following ships finished annual target practice: Battleship *Moreno*, armored cruisers *Belgrano* and *San Martín*, cruiser *9 de Julio*, destroyers *Catamarca* and *Jujuy*.

No reports have been published as yet but the papers say that the firing was unusually good and that in the preliminary firing the *Moreno* and the two destroyers broke all previous records for ships of their class.

The commandant of the first naval district stated that the practices were very successful. He said that in the battle practice at 15,000 meters 49 rounds were fired from the turrets of the *Moreno* at a moving target in 3 minutes and 32 seconds. The allowed number of rounds was 50 and the time 5 minutes.

The salvos were well bunched and nine hits were made. About one-fourth of the splashes were short. The torpedo-defense battery was firing at the same time as the turrets.

The reduced charge practice at 8,000 meters was also quite satisfactory.

AUSTRIA.

ARTILLERY AMMUNITION SUPPLY DURING THE WAR.

January, 1923.

The relation between high explosive shells and shrapnels in field batteries, peace time, was 1:3; in light howitzer batteries 2:1; and in all other special gun batteries according to necessity.

The Austro-Hungarian General Staff estimated the consumption of artillery ammunition at about 377,000 rounds for the first month of war and about 250,000 rounds for every succeeding month.

According to that estimate there were produced in Austria 900,000 rounds in the first three and one-half months of the war, which proved to be insufficient. This production covered only 50 to, at the highest, 70 per cent of the real consumption of artillery ammunition.

The really enormous expenditure of artillery shots was unforseen by the general staff, and the mobilization of the Austrian war industry was far behind the necessity. There were lacking especially the great quantities of necessary powder and high explosives and even

steel. Ores were at hand, but the shortage of coal checked the production of steel.

The monthly production of powder was increased from 210 metric tons (1,000 kegs) to 3,400 tons, and that of high explosives from 53 tons to 5,130 tons. In spite of this forced production of powder and high explosives the country suffered from a chronic shortness of both, which fact put a constant brake on the production of shells.

Many other retarding factors existed besides the already mentioned difficulties. For instance, the stock of brass was very small and it was necessary to use a very simplified point-detonating fuze. The shortage of steel, the inadequate adaptations of the plants, the quality of the powder and high explosives, the constantly increasing demand and expenditure for artillery ammunition, forced the Austro-Hungarian producers to begin with the production of cast-iron shells instead of steel shells. This lasted from December, 1914, until May, 1916—i. e., until the improvements in the organization of the working processes took effect. It turned out that inferior ammunition is worse than none: An endless number of bursts in the bore, an extraordinary high percentage of "blinds," weak shooting effects, all of which resulted in a seriously weakend morale of the troops and a corresponding encouragement of the enemy.

During the whole time the ammunition never answered to the full requirements with regard to quantity and quality; it was also impossible to come up to the wanted relation between high explosive shells and shrapnels. In order to avoid this inconvenience there were constructed and used the so-called "Granatschrapnelle," i. e., a combination of high explosive shell and shrapnel. During the World War there were produced more shrapnel and "Granatschrapnelle" than high explosive shells.

The slender stocks of lead forced the general staff in 1916 to fill the shrapnel and shrapnel shells with iron balls instead of lead balls. The resulting reduction of weight of projectiles and the thereby changed trajectory had to be equalized by a special correction. This kind of shrapnel and shrapnel shells had also a diminished effect.

AUSTRIA.

FLAME-PROOF PROTECTION ABOARD SHIP.

February, 1923.

Note.—This report was obtained from ex-officers of the former Austro-Hungarian Navy.

In constructing the ships, and subsequently by means of a rigid and continuous control, great care was taken to see that wherever speaking tubes or other pipings penetrated the bulkheads, the packing should be as water and air tight as possible.

The principal danger in the turrets came from the ammunition stored ready for use in the various stories of the turrets, which could be easily ignited by a shell striking the outer wall of the turret. It was therefore a matter of strict principle not to have any ammunition stored under any circumstances outside of the ammunition chambers of the turrets. This naturally made the firing a little slower as the ammunition had to be carried from the storage room each time before firing. In the case of fire, the flames could pass through the ammunition shoots which opened into the ammunition rooms, and thereby reach the loading stations in the interior of the turrets and injure the men. In order to prevent this, all the loading and unloading openings were always closed by tightly fitting doors which were opened automatically by the ascending lift and closed after the loading or unloading by spring work. In the batteries, the ammunition chutes which opened near the guns in the reduits, always had to be well closed, except when ammunition was being brought up. The ammunition rooms themselves had sliding doors opening out on the loading station. The large speaking tubes which could also transmit flames and poisonous gases were closed by fine copper or brass wire sieves fastened in the pipe about 20 to 30 centimeters from the opening. A sponge saturated with chlorine water was placed in the mouthpiece to absorb the poisonous gases. When not in use, the tubes were always closed with wooden or rubber corks.

During a battle, every man on board wore a gas mask with two potash capsules in a case. Long gloves and a head mask made of impregnated material served as protection against blazing flames. The mask had fine brass nets at the eyes and mouth and the mask itself was tied tightly around the neck with ribbons.

Tanks filled with chlorine water were hung in the turrets so that the men could bathe their eyes from time to time and prevent any injury from the gases.

Outfits made in the manner of diving suits were placed at various convenient places in the ship to enable the damage crew to enter the rooms filled with poisonous gases and rescue the men who were in them.

BRAZIL.

CONDITION OF FLEET.

February, 1923.

During its recent cruise the Brazilian Fleet revealed itself as being in bad condition. Since these defects are being remedied as much as possible and plans are being made to overcome them, no attempt will be made to go into particular details.

The most glaring features which became apparent were:

Communications.—The entire lack of a system of communications. The visual signal book, for example, had not been revised since 1886, and when simple maneuvers were attempted by the fleet it was necessary to draw up special typewritten signals the night before. Little attempt was made to use the radio. A daily mail between Rio de Janeiro and Ilha Grande by navy airplane was successfully maintained.

Manoeuvers.—Attempts at manoeuvers proved distinct failures, and it is not believed that the Brazilian Navy has ever performed more than the simplest evolutions. The complete lack of communications covering evolutions has undoubtedly contributed to this situation. Then, too, the lack of any standard speed has contributed to the difficulty. It is planned during the next maneuvers first to standardize the ships as much as possible and then to attempt daily maneuvers during the cruise.

Engineering.—The worst fault revealed relative to engineering was that of improper firing and care of boilers, the battleships using 50 per cent more boilers while cruising than necessary. No record is kept of the number of steaming hours for each boiler and no attempt made to effect repairs while away from the base unless it is absolutely necessary. The obvious consequence is that the ships have been in the past forced to undergo extensive repairs each year. There is no time-firing device employed on the battleships nor is any effort made to regulate the firing, the firemen exercising their own discretion without particular control. No standard speed could be maintained during the cruise, due to these conditions.

The engines of most of the ships appear to be in good condition and reasonable care is taken of them. Exactly the same condition obtains in the Brazilian Navy now that existed in the American Navy shortly after steam superseded sail, in that the captains and deck officers of the ships are entirely at the mercy of the chief engineer. The deck officers know nothing about engineering nor are they interested in it except in a few isolated cases.

Supplies and accounts.—Perhaps in this department exists the worst condition of all. No improvements have been made in the method of accounting or of handling money for many years. The paymasters of the ships, unless actually operating away from Brazil, are not allowed to carry any money on board ship, payments being made at the naval base. The records of the men and officers are kept in a very complicated fashion and under the existing system it requires 70 minutes to pay 30 enlisted men a month's pay. Supplies are contracted for and handled by shore officials, and the system of requisition is very clumsy. It took five days for a submarine to

obtain a barrel of oil on the dock 50 feet from it from the time the initial requisition was made.

One reason for this condition is the peculiar laws of the country relative to the operation of the military and naval forces, but the probable reason for the existing condition in this department is due to the lack of energy necessary to overcome the existing inertia.

Morale.—The morale of the Brazilian Navy is higher than one would expect, due largely to the fact that the enlisted personnel is a body of remarkably good men considering the country, the climate, and the conditions obtaining in the navy. The officers are individually clever and intelligent, but they seem to be incapable of sustained effort, and the older ones operate to stifle the ambition of the younger ones. The fleet has spent so great a portion of its time at Rio de Janeiro that many of the officers pursue regular businesses in the city during the forenoon and then spend the afternoon in the navy yard or upon their ships. A large factor which contributes to the present state of inefficiency of the navy is due to the constant shifting about of personnel, both officer and enlisted. It is hoped that this can be overcome, but for years the officers and men have been shifted about without rhyme or reason. The navy both internally and externally is so entangled with politics that it is difficult for an officer to rise solely on his own merits. Then, too, each high official of the navy invariably gives the posts of responsibility to his friends without regard to their fitness for their duties.

BRAZIL.

GERMAN AVIATION ACTIVITIES.

February, 1923.

It has been learned that a contract has been made between the German Junker Co. and the Brazilian Government for an aerial mail service from Rio de Janeiro to Pernambuco, Bahia, and São Paulo.

Four Junker planes are already en route from Germany to Pernambuco, and four others are expected to be shipped shortly, according to this authority.

This same German company is attempting to negotiate with the Brazilian Government the establishment of an airplane factory on an island in the harbor of Rio de Janeiro, under more or less the same conditions contained in the contract proposed some time ago between the Brazilian Government and Armstrong & Vickers relative to ordnance.

The Brazilian Government, however, has agreed to give the Americans a chance to bid on this project, and it is understood that the

president of the Curtiss Co. is about to sail from New York for Rio de Janeiro to consider this proposition.

O Paiz of February 21, 1923, published the following article which bears on the above:

Admiral Alexandrino de Alencar, Minister of Marine, has designated First Lieutenant Aviator Peixoto to take possession of the 10 airplanes offered by the State of São Paulo to the union in honor of the installation of an aviation center in Santos.

Dr. Washington Luis, president of the State, carried the idea to the State congress, who voted an additional $12,500, which will be employed in buying the necessary material for the new school. Beyond the magnificent present of the State of São Paulo it is well to note that this $12,500 is not specifically applicable to any one particular purchase, and the State ended by giving a piece of land worth at least $60,000 on the island of Santo Amaro (opposite Santos) for the installation of a prospective naval base and the base for the 10 airplanes—types "Oriole" and "C. L.," which, at the exchange of to-day, have a value of $65,000, making a total gift of $125,000.

With this additional aerial augmentation, the Minister of Marine will initiate during the month of April of this year a postal service for the north of Brazil in accord with combination already made with the Minister of Transportation.

The aerial service will be Rio de Janeiro to Belem (State of Para), with stopping ports of Victoria, Porto Seguro, San Salvador, Aracaju, Maceio, Pedras, Pernambuco, Parahyba, Natal, Aracaty, Sobral, Tutoya, S. Luiz, Tury-Assu, and Belem.

The minister decided on this aerial service not only to give training to the naval aviators but to aid postal service and to make the postal service more rapid.

As the hangars now installed will not take care of the many planes, the minister has ordered a quick disembarkment of the equipment lately received by the German ship *Sachsen*. The new hangars will be put on the island of Governador, headquarters of the air service.

BRAZIL.

NAVAL MANEUVERS.

January, 1923.

On 23 January, 1923, the Brazilian Fleet sailed for Ilha Grande (30 miles south of Rio de Janeiro) for the first maneuvers of the year. The fleet consisted of battleship *São Paulo*, battleship *Minas Geraes*, cruiser *Barbosa*, and 4 destroyers, no submarines, 1 destroyer tender, 1 train vessel.

The condition of the submarines precludes their cruising for some time.

The fleet will base on Ilha Grande, maneuver daily, and is expected to return to Rio de Janeiro at the end of about two weeks. There will be a daily mail service to the fleet from Rio de Janeiro via aeroplane.

BRAZIL.

UNUSUAL POLITICAL SITUATION IN STATE OF RIO DE JANEIRO.

January, 1923.

While the city of Rio de Janeiro is geographically within the limits of the State of Rio de Janeiro, the city of Rio de Janeiro constitutes a Federal district directly under the control of the National Government exactly as the District of Columbia is under the control of our National Government.

The capitol of the State of Rio de Janeiro is Nictheroy, a city of 100,000 inhabitants, and located across the bay from the city of Rio de Janeiro.

The various States of Brazil are governed by presidents, instead of governors, and the power of a president is considerably more than the power of a governor in our country.

At the last election throughout Brazil there were two principal parties, Republicanos and Nilhistes.

On November 3 elections were held throughout the State of Rio de Janeiro, with the following results: Doctor Sodre (Republicano), 18,000 votes; Doctor Fernandes (Nilhiste), 30,000 votes. (The President of Brazil is a Republicano.)

Immediately after the announcement of the results of the election the Republicanos claimed that the men in charge of the election booths had been bribed by the Nilhistes; that the election returns were improper; and that Sodre was properly president of the State.

Although the new president was supposed to take his office immediately after election was announced, due to the turmoil caused by these charges, he did not until December 31. On that date Sodre established himself in the city hall of the city of Nictheroy as president of the State of Rio de Janeiro with a guard of one battalion of Federal troops. On the same date Fernandes established himself in the presidential headquarters at Nictheroy, he also having a guard of one battalion of Federal troops in addition to various State troops.

During the first week in January the confusion existing in Nictheroy and throughout the State, due to the two men delivering contradictory orders, became general. The troops who were guarding Fernandes, due probably to certain influences brought to bear, early in January withdrew from him and joined those serving under Sodre. When this occurred Fernandes left Nictheroy, proceeded to the city of Rio de Janeiro, and complained to the President of Brazil.

The National Assembly had before this been dissolved. The President of Brazil therefore requetsed each of the contesting parties to produce all documentary evidence pertaining to the election. This evidence was produced and was forwarded by the President to the secretary of the National Assembly, with orders that the matter be

laid before the National Assembly at its next meeting. In the meantime Fernandes, claiming that this documentary evidence showed very plainly that he had been properly elected, petitioned the supreme court of Brazil to render judgment in the matter. The supreme court decided and announced that Fernandes had been legally elected as president.

Fernandes took this decision, returned to Nictheroy, and on the strength of this decision dissolved the State assembly which Sodre had convened. Fernandes then established himself in the presidential offices and ordered that certain State troops be sent to guard him. This order was complied with. For three days Fernandes exercised the prerogatives of his office, and then popular feeling reached such a pitch that the troops guarding him refused to guard him any longer and no one would obey his orders.

Fernandes then returned to the city of Rio de Janeiro and complained that he had not received proper support from the Federal Government.

The President of Brazil therefore sent Doctor Leal, a nonpartisan lawyer of the city of Rio de Janeiro, over to Nictheroy as an "interventor." Leal peaceably assumed the duties of president of the State of Rio de Janeiro, and he will probably continue in that office until the next meeting of the National Assembly, who will attempt to decide the contest between Fernandes and Sodre.

CENTRAL AMERICA.

METHOD OF CARRYING OUT AN ELECTION.

January, 1923.

Note: For certain reasons the names and localities mentioned in the original report have been deleted.

The following account of the election for senator and deputy in "A" the departmental head of the Department of "B" of which I was an eyewitness, is for your information and should be considered as confidential.

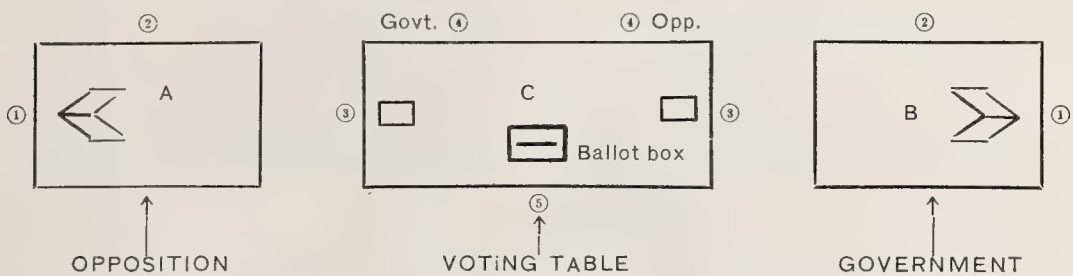
The election for senator and deputy was held on Sunday, ———, and Monday, ———, throughout the Department of "B." That part of the election which I wish to relate took place in "A," the departmental seat, on these dates.

There were two parties interested in this particular election, the Government party presenting the candidates "J" and "K" for senator and deputy, respectively, and the opposition party presenting the candidates "M" and "N" for senator and deputy, respectively.

The Government party was made up of strict Conservatives, followers of the present President of the Republic. The opposition party was made up of the Progressives and a great many Conservatives, not in sympathy with the present administration, and the majority of the Liberals.

Procedure of election.—The procedure of an election is here given with a diagram to simplify the explanation.

At each election booth or point are three tables; two small ones for the two parties and a central one where the votes are placed in the ballot box. At each table (small) are two representatives of each party. One man checks off the voters on the list of eligibles, the other man gives out the ballots, which are simply small slips of paper on which are printed the names of their candidates. At the central table there are five men, two for each party, who check the votes before they are cast, and a president of the table who presides over the ballot box. The relative positions of these men at the tables are here given in diagram.



LEGEND.

No. 1, are men with the voting lists.
No. 2, give out the ballots.
No. 4, check the voter on the list before ballot is cast.
No. 3, write the voter's name on a separate list in ink for record.
No. 5, is the president of the table and oversees the casting of the ballot.

PROCEDURE.

Mr. X, an opposition voter, goes to table A and gives his name. It is checked on the list by No. 1, and No. 2 gives him a ballot. Then Mr. X proceeds to table C and presents his ballot for inspection to the Government representative, No. 4, who checks his name on the list, and No. 3 writes it down on the record list in ink. If there has been no objection to his casting his vote for one reason or other, Mr. X drops his ballot into the box in the presence of the president of the table No. 5. Mr. Y, a Government voter, does the same thing at his table, but upon proceeding to table C he presents his vote to the opposition representatives. It is to be noted that No. 5, the president of the table, is supposed to be an impartial party, which, however, is rarely so. This sounds quite simple and fair, and it would be if everyone were honest and impartial, but in this particular election this was far from the case, as will be seen as I proceed.

THE ELECTION.

Preparations for this election were made several weeks in advance of the date set. The Government officials in the capital removed from office the director of police in "A" and placed in his stead a man of questionable reputation in politics and unprincipled in the use of force to attain his ends. This man was placed in office simply to carry out the orders, using force if necessary, of the Government officials in the capital, which officials acted at the direct command of the President. Two weeks before the election, therefore, the new director of police began to increase his force with men who would follow his commands to the extreme. Then he began a campaign against all the small party heads of the opposition candidate, arresting them and placing them in the jail without any reason other than because they belong to the opposition. The candidate for senator for the opposition party was followed day and night, and practically everyone with whom he held conversation was immediately arrested and put in jail. By these means the director of police was able to intimidate the people in the surrounding country to the extent that they were afraid to move from their houses. This continued up to the day of election, and on the morning of this day the director of police sent his men out to guard every road entering the city with orders to arrest or stop any man of the opposition party from entering the city.

At the voting tables at the west end of the city were placed some 15 or 20 soldiers and police, for here was expected the most trouble, as the people from outside the city voted here. At the tables at the east end of the city two or three police were placed, for here voted the people in the city proper, and little trouble was expected from them.

Trouble started from the very beginning at the west voting point. Every man who was fortunate enough to get by the guards in the roads entering the city was either arrested as he came up to the table or his vote was protested by the Government officials and he was not allowed to cast it. Of course, this is exactly what the director of police desired, for whenever a man remonstrated because of this treatment he immediately was beaten into submission and taken to the jail. During the morning I witnessed several bad fights in which the police and soldiers were brutal in their treatment of these opposition voters. Because of this treatment things became rather tense in the early part of the afternoon. At about 2 o'clock I was standing watching the voting at the west table and saw two men come up to vote. They received their votes from the opposition table and proceeded to the central table to have them checked. They were passed by the Government representatives, but when they

attempted to cast their ballots the president of the table took them and tore them up. Naturally the men remonstrated, but to no avail. They then immediately went to the Government and each received *two* ballots for the Government candidate, and when they presented their votes again at the ballot box the president of the table would accept them, but the men deliberately tore them up and denounced the president of the table. As a result there was a fight, and both these men were taken to the jail badly beaten up about the head and body. This is just one instance of many that I witnessed during the day.

Another man, well known in the community, a Conservative, in sympathy with the opposition candidate, came up to vote. He was refused and insulted by the president of the table. He then struck the president of the table in the face, and the director of police attempted to arrest him, when Mr. "G," a very influential man of the city, interfered. The director of police lost his temper and drew his pistol and pointed it at "G," who told him to go ahead and shoot, but if he did, he and all his men would be killed before night. The director of police thought better of his action and allowed both Mr. "G" and the other man to go free. Shortly after this incident a man came up to vote and was in the act of receiving his vote from the representative of the opposition table when one of the policemen, a particularly bad character, attempted to arrest him. The opposition representative, a young man about 18 years old, interfered and the policeman drew his pistol and shot him, the bullet grazing his head. At the same time in the scuffle that followed, the policeman stabbed this young man in the side, cutting him open from his ribs to his thigh bone. Immediately there ensued a free-for-all fight in which many shots were exchanged and considerable blood spilled, but as far as I know no one else was seriously hurt. The director of police, fearing things were about to get beyond control, called his men about him, took the ballot box, and proceeded to the municipal buildings and the jail, with the maddened crowd in their wake. Several shots were exchanged in the streets, one man being shot in the arm and a mule killed. Arriving at the jail the director of police issued orders to fire on the people if they approached within 50 yards.

By 4 o'clock the city was full of men ready to go against the jail. Before making an attempt to capture the jail the crowd sent to the house of the jefe politico or departmental governor and asked him to issue orders to the director of police to liberate all the political prisoners at once. The jefe politico held a conference with the director of police and then issued an order to the effect that all prisoners would be set free at 6 o'clock that night. In the meantime he telegraphed to the President and asked for more soldiers, which were sent immediately. At 10 o'clock that night 125 soldiers with two

machine guns arrived and the prisoners had not been set free. All that night and all during the next day the streets were overrun with drunken soldiers who shot everything that came in their way. The Government officials here had supplied these soldiers with alcohol in order to terrorize the people.

The next morning, the second day of the election, voting was again permitted, but with the city and country full of drunken soldiers, few of the people dared to try to vote. With all the objections and interference of the Government forces, the results by actual count of the election was in favor of the opposition candidates, but on the night of the close of the election the ballot boxes were taken by the Government officials, opened and the votes changed to give the majority to the Government party.

Such is an election in "A," and from what I know of the other Departments, it is very similar, an election run under force by Government troops.

CHILE.

BRITISH SEAPLANES ARRIVE.

January, 1923.

Two seaplanes, which were bought out of funds from a popular subscription, have arrived in Chile.

These boats are to be used for training purposes. They are of the supermarine channel type M. K. II, constructed by the Supermarine Aviation Works Co. of Southampton. They are equipped with a Siddeley "Puma" motor, 240 horsepower. There are three seats in the machines, two for pilots and one for gunner and signal man. They are installed with radio telegraph and telephone system, and armament can consist of one machine gun and bomb-dropping appliance.

CHINA.

ATTITUDE OF CHANG TSO-LIN.

January, 1923.

Chang Tso-lin's present policy towards the rest of China might be expressed by the phrase "watchful waiting." It is possible that he feels he lost face badly last summer, and feels that until he has demonstrated to his own Province—and through that to all the East—that he has a right to be still considered a powerful factor in China, he is holding aloof. Whatever the reason, the opinion that the policy of aloofness is genuine and will continue indefinitely, in the absence of events demanding a radical about face, seems well taken.

The situation seems to be about as follows: Chang's observations of China are that the central Government is in an absolutely chaotic condition. Factions and politicians control all moves and finances could not be worse. Under such conditions he considers it wise to allow conditions to drift. No one with sufficient strength to threaten to become a dominant figure is on the horizon and meanwhile many who are momentarily popular rise and fizzle out of the scene like a burnt-out rocket. As long as no one arises who may unite and grasp the political power, Chang will hold himself aloof. Meanwhile he watches and strengthens himself in his own province. He really only seems to fear Wu Pei-fu, and as long as the combinations of Chinese politicians are against him (Wu)—as they are now—he is satisfied. There is good reason to feel that Chang really aids and stirs up the bandits in Honan to keep Wu worried. At any rate, he feels that Wu is much weaker politically than he was nine months ago. Chang meantime keeps more or less friendly and intimate relations with Sun Yat-sen, Tsao Kun, and any other parties that he feels may be antagonistic to Wu. When the time comes—as he probably thinks it will—he will eventually step in.

Meanwhile in his own Province he attends to matters to establish himself more strongly. He has given and gives a sound financial administration. He controls the revenues and sees that they are largely devoted to bettering conditions. As a result Manchuria is the only Province of China that is at all in a prosperous and thriving condition—speaking of governmental position, finances, and policy of administration. There is no doubt but that by this policy Chang has gotten his Province (foreign and Chinese) solidly behind his back. He now intends to continue to foster these feelings and by the fact that he has given these conditions to Manchuria demonstrate to the rest of China that he can do the same thing for China. Meanwhile his political enemies in China fritter away their time and opportunities.

In regard to conditions in Manchuria, there are many small matters that show good government and respect for authority. Perhaps as good a one as can be mentioned is that on the railways north of the Great Wall, soldiers when traveling on the regular passenger trains are well behaved and conduct themselves in a manner that is not objectionable to other passengers. South of the wall this condition is absolutely changed. Soldiers when riding make themselves at home in the first-class carriages. In the diner they seat themselves at the tables and remain there, so that it is impossible for others to obtain a meal. It is a frequent sight to see the diner filled with soldiers asleep at the tables and no one daring to put them out. They pay no attention to Europeans. This condition

obtains in all parts of China, except Manchuria, as far as I am able to learn. It certainly is so in north China.

My opinion is that Chang's policy is well taken; and if he can be sufficiently astute to hold on thus and eventually grasp the situation at the psychological moment, he can eliminate Wu, Sun, and his other political rivals. Only time can tell what may be the outcome but it appears now that, if the above is a correct diagnosis of the situation, he is the only one of the prominent figures in China who has a solid policy or one that really shows a possibility of bettering conditions in China.

In regard to Chang's attitude toward Japan, there is no doubt that he has been and is largely dependent on Japan for many things. He is in the market for all sorts of supplies—many items coming from Japan. He is less and less dependent on Japan and is able to buy in the open market. He made a recent purchase of some 300,000 leather jerkins from American sources. Incidentally, a considerable number of these were far from being up to standard. However, whether by policy or by chance, it is true that Chang is becoming more and more independent of Japan. He has succeeded in paying off indebtedness to them in many ways, frequently in cases in which the Japanese would have preferred to keep their hold. In spite of all such feeling and attitude on the part of the Japanese, Chang is gradually achieving a very considerable independence of them and seems to be deliberately doing so.

He also seems keenly alive to the growing solidity of the Soviet Government. Referring to the feeling and attitude toward the soviets in the Far East, there is no doubt that the recognition is becoming general that the soviets are the power that is to be reckoned with in Russia. The soviets are, moreover, in a position to enforce their demands on China in the matter of affairs along the Chinese border. One hears "the Red forces are very strong" frequently, referring to the army. Chang does not like the Russians (soviets) particularly, but he recognizes the necessity of being on friendly terms with this new and rising power. In this connection it might be stated that all foreigners in Mongolia and Siberia have discovered that if they are to do any business at all it must be because of a friendly attitude or understanding with the soviets.

One hears here a good deal about the relations between the Chinese and Russians. Constant clashes between the nationals. I have been able to investigate this to some extent and found that these clashes seem to be confined principally to the district about Harbin. Here there is no doubt that the Chinese are treating the Russians very badly and very unjustly. However, this seems to be an instance of the Chinese returning in kind the treatment that they have received from the Russians in the past years. In other words, the relations

always have been bad and the present difficulties are the outgrowth of old-time animosities. The best information I have indicates that the relations between the Russian and Chinese authorities and the relations between the nationals at other places than Harbin are as good as could be expected.

CHINA.

ESTIMATE OF THE POLITICAL-MILITARY SITUATION.

24 February, 1923.

1. FORM OF GOVERNMENT.

China, the oldest of monarchies, became a republic in 1912 and was recognized by the foreign Governments in 1913. The term "China" is used to include the 18 Provinces of China proper, the three Manchurian Provinces, and the dependencies of Tibet, Mongolia, and Sinkiang.

Recent historical development.—Prior to the overthrow of the Manchu dynasty the rather decentralized government was ruled over by an Emperor, who was regarded with religious veneration as the "Son of Heaven."

Following the Sino-Japanese war (1894) and the competition of European powers for concessions from 1896–1898, inclusive ("The battle for concessions"), there was a great popular demand for reform. Though some changes were later made in the central Government, complete steps were not taken to provide for a constitution and a popular assembly.

In 1911 a revolution broke out which finally resulted in the overthrow of the Manchu dynasty and the establishment of a republic in 1912, with Yuan Shih Kai as President.

The Republic first functioned under a provisional constitution which had been drafted in 1911. The majority of the Parliament belonged to the Kuo Ming Tang Party, which was in opposition to President Yuan. By December, 1913, President Yuan Shih Kai felt strong enough to dissolve this Parliament, and from January, 1914, to 1916, he ruled as a dictator. A provisional constitution was adopted in May, 1914, by a commission of 60 members elected from the various Provinces and dependencies. This constitution gave the President complete autocratic powers.

On October 8, 1915, a bill was promulgated calling for a referendum on whether or not a monarchy should be proclaimed, with Yuan as Emperor. Voting took place in November, and by fair means and foul the country was made to declare unanimously for a monarchy. Yuan accepted the throne on December 12, 1915, but, due to

widespread opposition, especially in South China, he was forced in March, 1916, to cancel his acceptance prior to the date of the ceremony. Yuan then attempted to organize his government on approved modern lines, but died suddenly in June, 1916.

When the Vice President, Li Yuan Hung, became President in 1916, he reconvened the National Parliament which had been dissolved by Yuan, but under pressure of the militarists he again dissolved it in 1917.

The Kuo Ming Tang members of Parliament withdrew to Canton, insisting that the 1911 provisional constitution was the legal instrument that prescribed the duties of the President and Parliament. A republic, called the South China Constitutional Government, was set up in Canton, of which Sun Yat Sen became President in November. 1920. The South China Government was overturned by troops of Gen. Chen Chiung Ming on June 16, 1922, and Doctor Sun Yat Sen was soon forced to take refuge in Shanghai. Chen Chung Ming, in turn, was driven from Canton January 16, 1923, by Yunnan-Kwangsi troops acknowledging nominal allegiance to Sun Yat Sen.

In July of 1917 an attempt was made in Peking to restore the Manchus, but this movement was quickly overcome just as similar movements are sure to fail in the future.

During recent years the central Government has steadily grown weaker (both militarily and politically). Some Provinces or portions of Provinces are practically independent and most of them acknowledged more allegiance to various strong military leaders than to the central Government. It may be said that practically the only power exercised by the central Government outside the walls of Peking emanates from the prestige that it gains through the diplomatic recognition extended by the foreign powers; through the receipt of revenues from customs, salt monoply, etc., which are under foreign supervision; and from the belief among many powerful Chinese that China must hold together in *foreign* affairs.

2. ORGANIZATION OF GOVERNMENT.

THE GENERAL GOVERNMENT.

Executive.—The President: The President is supposed to be elected by an electoral college composed of the two houses of the National Assembly sitting together. The term of office is five years subject to one reelection. The President is the source of all executive powers. He promulgates the laws and issues orders for their execution. He appoints and removes all civil and military officials on his own responsibility except in the case of the appointment of members of the cabinet, ambassadors and ministers, when the concurrence of the legislature is supposed to be necessary. With the concurrence of the

legislature he can also declare war and conclude treaties. He can introduce bills and veto legislation but his veto may be overridden by a two-thirds vote of the legislature.

The President is assisted by a premier and nine ministers, who are at the head of the usual executive departments.

Legislative.—The National Assembly: The National Assembly is made up of a Senate of 264 members and a House of Representatives of 596 members. The powers of the National Assembly are laid down in the constitution, but, in fact, this body is still in the experimental stage. The Government has been carried on since the Republic was established in 1912 for the most part without a legislature, the law-making power being exercised by the executive.

When Li Yuan Hung returned to office in June, 1922, one of his first mandates canceled the mandate of 1917, which dissolved the Parliament. The Parliament reconvened on August 1, 1922, with a quorum in both houses but has, as yet, accomplished nothing.

In any consideration of the various branches of the Government it must be remembered that the central Government has little power outside the walls of Peking.

Judicial.—The supreme court is the highest judicial tribunal in the country. It is made up of a chief justice and a number of justices, five of whom sitting together constitute a court.

The supreme court stands at the head of the national judicial system consisting of district courts, located in the different districts (hsien) throughout the country, and higher courts, of which there is one in each Province. The jurisdiction of the supreme court is both appellate and original. It has original jurisdiction in the case of offenses against the State for which the limit of punishment is more than three years and in the case of impeachment of the President by the National Assembly.

LOCAL POLITICAL SUBDIVISIONS.

China is divided into 18 Provinces of China proper, the 3 Manchurian Provinces, and the dependencies of Mongolia, Sinkiang, and Tibet. These Provinces are practically autonomus States, and the control of the central Government is merely nominal or nonexistent.

In the Manchurian Provinces, Chang Tso Lin is dictator of the three Provinces; in Mongolia there is an independent government under the domination of Soviet Russia; in Honan and Hupeh, the powerful leader Wu Pei Fu; and in South China, the elusive Sun Yat Sen. In some Provinces there is a semblance of a real provincial government with an assembly, a military governor, and a civil governor, but there is usually some strong leader who collects the provincial taxes, raises his independent army, and acknowledges little or no allegiance to the central Government. Several Provinces are divided

into spheres of influence of rival leaders, some of whom are mere bandits. In a number of Provinces the bandits number many thousands of fairly well organized and equipped troops against which the provincial authorities seem helpless.

II. Internal Political Issues and Political Parties.

1. IMPORTANT POLITICAL ISSUES.

The important internal political issues are: (*a*) The demand for popular representation in the central Peking Government; (*b*) the subordination of the military to the civil officials throughout China; (*c*) a movement for the regaining of a measure of sovereignty in opposition to foreign territorial and economic aggressions, their slogan being "China for the Chinese"; (*d*) the struggle by some groups for a strong, centralized government as opposed to the traditional provincial semiindependence.

2. POLITICAL PARTIES.

The strongest political party is the Kuo Ming Tang (Democratic) Party. This party is very powerful in South China. Sun Yat Sen, Tang Shao Yi, and Gen. Cheng Chiung Ming are among the leading figures. This party believes in popular representation, the restoration of the provisional constitution of 1911, and the subordination of military to civil authority.

The Chinputang Party was originally formed as an opposition party in Parliament. Its membership includes the more moderate element.

In addition there are other political parties of lesser importance, with names that indicate their purpose, but more important than these parties are various groups or cliques whose numbers are also included in one of the various political parties. These members have no party platform but work together for their material and political advancement. The most important of these groups or cliques are as follows:

(*a*) *The Chao-tung or Communications clique*, which represents the principal banking and financial interests in North China. Opposed to the military; leading figures are Liang Shih Yi, Chow Tsu Chi, Yeh Kung Cho, etc.

(*b*) *The Chihli Party* which is strongly militaristic and is made up principally of military commanders in Central China such as Ksao Kun and Wu Pei Fu. The latter general is the dominant figure of Central China.

(*c*) *The Manchurian clique* which is essentially military. Through its leader Chang Tso Lin, it defies the Peking Government and rules the Manchurian Provinces independently of Peking. Chang Tso

Lin is forced to make concessions to the Japanese which amount to moral domination.

(*d*) *The Anfu Party* which was pro-Japanese. Support was both military and civilian. Leaders Tuan Chih Jui, Gen. Hsu Shu Cheng, Tsao Yu Lin, etc. Party disorganized and discredited through military defeat by Gen. Wu Pei Fu in August, 1920.

The students' movement in both North China and South China is an attempt on the part of the students to free China from the control of the Tuchuns, substituting proper representation. This movement is a real attempt on the part of the masses of China to become politically articulate. Through this movement public opinion influences to a certain extent the policies of the Government.

3. THE PRESENT GOVERNMENT.

Hsu Shih Chang, acting under pressure from Wu Pei Fu and in accordance with the wishes of the Chinese people, resigned as President of China on June 1, 1922. Li Yuan Hung, under strong pressure from Wu Pei Fu and the Chihli Party leaders, agreed to go to Peking "acting in the capacity of President temporarily, pending the determination of his status by Parliament." President Li assumed office June 11, 1922. One of his first acts was to cancel the mandate dissolving Parliament which was issued by himself when President of China in 1917. Although Parliament convened on August 1, 1922, with a quorum in both houses, nothing has yet been accomplished by that body. The sessions have been very stormy, the members being divided into hostile cliques which seem to be waiting for a bribe. Cabinets have come and gone with amazing rapidity. One cabinet of which Wang Chung Hui was Premier and Wellington Koo, Minister of Foreign Affairs, qffered promise of permanency, since the personnel represented the foreign educated, progressive element of China. This cabinet was acceptable to Gen. Wu Poi Fu, but was finally wrecked through its inability to gain the loans so necessary to the existence of the central Government. On December 29, 1922, Parliament ratified the appointment of Chang Shao Tseng as Premier of China. Chang, a militarist, is the first cabinet officer to receive ratification by the new Parliament. The appointment of Dr. Alfred Sze as Minister of Foreign Affairs failed of ratification and an acting cabinet continues to serve under Chang. The Government has seldom, if ever, seemed so unstable since the establishment of the Republic. Wu Pei Fu, from his headquarters at Lo Yang, gives "unofficial" advice which has some force behind it, while at Mukden has assembled under the shelter of Chang Tso Lin's army a choice collection of political refugees who plot with Tsao Kun for the downfall of Wu Pei Fu and the appointment of Tsao Kun as President of China.

Probably the greatest contributory factor to the present instability of the Government is the empty treasury due to the failure of the provincial revenue to reach Peking. It has become difficult to induce a prominent Chinaman to accept a position in the Government, since the "rewards" of office are uncertain.

4. BEARING OF INTERNAL POLITICAL SITUATION ON INTERNATIONAL RELATIONS AND ISSUES.

The weakness of the central Government, the dissension throughout the Provinces, and the corruptness of the Chinese politician in his official life makes China as helpless as a child in her international relations. Her only protection is found in the mutual jealousies or fickle generosity of the great powers. The weakness of the central Government has prevented China from receiving loans from the foreign banking groups, and this fact has caused the treasury to default on the interest on foreign loans which has then lowered the prestige of China in the eyes of the great powers. The situation throughout the Provinces is so chaotic that it is difficult to determine what action to take in enforcing treaty rights. The Government, the Parliament, and the militarists who control them, are utterly shameless as far as China's foreign obligations are concerned.

5. FOREIGN INFLUENCE IN INTERNAL POLITICS.

In a Government like that of China it is natural that certain great powers should attempt to advance their national interest at the expense of China and the other powers. Great Britain has been one of the worst offenders in the past in her attempts to make the Yangtse Valley and parts of South China a British sphere of influence. We also have seen the many attempts of Japan to advance her "special interests" through the corruption of Chinese officials and the support of one faction against another. The results of the Washington conference are seen in the present reasonable attitude of Japan toward China. Japan appears for the present to be limiting her "sphere of influence" to the territory north of the Great Wall.

6. STABILITY OF GOVERNMENT.

The Government is republican in form rather than fact. The overthrow of the present ministry or the Government itself would create little surprise.

7. PROBABLE DEVELOPMENTS.

It is impossible to predict with any degree of certainty what will be the outcome of the present crisis in China. With the central Government practically not functioning; with the treasury empty,

and with various rival leaders sparring for position there is apparently no solution. China needs a strong figure to direct her present disorganized elements, and that man is apparently not in sight. China, is, however, fundamentally sound with an industrious, peaceful population, and a national revenue which is normally in excess of the necessary expenditures of Government. Some authorities profess to believe that militarism will fall of its own weight, since practically all of the Provinces have been bled of their wealth through the demands of the banditlike military leaders. It is probable that Tsao Kun will gain the presidency and that fighting will follow among the leaders of the Chihli Party which may be complicated by the entrance of Chang Tso Lin into the conflict on the side opposed to Wu Pei Fu.

III. Foreign Policies and Relations.

1. General aims, important policies or doctrines.

The aim of progressive and patriotic Chinese is to create internal stability so that the foreign powers will willingly abandon the extra territorial privileges which have been forced from China in the past. These privileges include actual territorial concessions; privilege of stationing foreign troops in various places, foreign judicial systems for the trial of foreigners on Chinese territory, etc.

2. Relations to other important powers, alliance or ententes, recent treaties, etc.

The Chinese have a natural dislike, fear, and jealousy of all foreigners, but are more friendly toward America than any other foreign power. They have an almost pathetic feeling that America is their natural protector against the aggressions of the other powers. This feeling has brought China many disappointments in the past and has at times resulted in China having an unreasonable attitude toward America.

The Chinese believe, with some justice, that the Japanese are the authors of most of their troubles. The steady expansion and strengthening of Japan's position in Manchuria and her attitude in Shantung, have, in the past, made the fear and hatred of the Japanese universal throughout China. The lesson of Korea is always before the eyes of the Chinese and they strive to remain on friendly terms with Japan just as they do with all the great powers. There are not lacking among the prominent Chinese some, who look upon a closer cooperation with Japan as essential to the future welfare of the Orient. This group meets with much opposition in the just prejudices of the masses due to Japan tactics in the past. Should

Japan maintain her present reasonable attitude much of the prejudice felt toward the Japanese would soon disappear.

Negotiations are being conducted at Peking between representatives of Soviet Russia and China with a view to settling questions growing out of the use of the Chinese Eastern Railway by Russia, the quartering of soviet troops in Urga, and the establishment of trade relations.

The following treaties have been among the most important in Chinese relations:

Various early treaties regarding extra-territorality.

Russia—Agreements with China, 1896.

Germany—Lease of Kiaochow Bay, 1898.

Boxer protocol of 1901.

Great Britain—Convention of Lhasa (with Tibet), 1904.

Great Britain with China (concerning Tibet), 1906.

Great Britain with Russia (concerning Tibet), 1907.

Japanese treaties and exchange of notes: Shantung, Manchuria, Mongolia (the 21 demands), 1915.

Treaty of Urga between China and Russia, regarding Mongolia, 1912.

Treaty of Kiakhta between China and Russia, regarding Mongolia, 1915.

In addition to the above the various treaties drawn up at the recent Washington conference will be of the greatest importance to China. The most important of these are as follows:

The treaty between the nine powers relating to the customs tariff.

The treaty between all nine powers (the open-door treaty) relating to principles and policies to be followed in matters concerning China.

The Shantung treaty, signed on the part of China and Japan on February 4, 1922, was one of the most important outgrowths of the Washington conference though not an integral part of it. The resolution regarding foreign postal agencies in China was also of great importance.

3. GENERAL INTERNATIONAL POLITICAL SITUATION, PROBABLE DEVELOPMENTS.

While China is at peace with all the world, she is as helpless as a child. The central Government is unable to protect itself from within or without, and China is thrown upon the generosity of the great powers for protection. The results of the Washington conference show that most of the stronger nations are displaying a willingness to refrain from any further encroachments upon the sovereignty of China. Japan, the worst offender in the past, remains

the problem of the future. Should Japan continue her present conciliatory attitude toward China, coupled with a willingness to cooperate with the other foreign powers in far eastern affairs, there will be more actual economic and political benefits accrue to Japan than she has gained through years of questionable aggressions. The return of Russia to the Pacific makes her once more an important figure in the Far East. Manchuria is the focal point of Chinese, Japanese, and Russian interests at the present time. The necessity for Russia to have free use of the Chinese Eastern Railway in order to connect her newly returned Vladivostok with Russia proper is one of the major problems of the Far East. It is unfortunately true that the white man is held in less esteem in China to-day and his life of less importance than at any time since the Boxer troubles. This is due to the growth of Chinese race consciousness and pride coupled with the weakening of the power of the central Government upon which rests the burden of protection of foreigners. This feeling has been aggravated by the ruin of Germany and Russia and the loss of consular jurisdiction by the nationals of these powers.

CHINA.

MISCELLANEOUS NOTES.

January, 1923.

On December 10 Japan withdrew her civil and military administration of Tsingtau and fully returned control to China, thus fulfilling her promises at the Washington conference. Control of the Shantung Railway has also been returned to China.

CHIHLI WAR LORD'S BIRTHDAY CELEBRATION.

On December 9 nearly all the prominent politicians and militarists in China flocked to Paotingfu to celebrate the birthday of Tsao Kun, the Chihli war lord. This date has come to be looked upon as the most important political session held in China, and over 500 representatives from all parts of China were present. Nothing of importance seems to have been done at this meeting.

PEKING GOVERNMENT SITUATION.

The Government situation in Peking is unchanged, and there has been no cabinet during the greater part of the month, which means that there has really been no government. Since the first of the month four premiers have been in office. Nothing has been done to better the financial condition of the Government.

HONAN BANDITS CAPTURE AMERICAN MISSIONARIES.

On October 13 several American missionaries were captured by bandits in Honan, together with missionaries of other nationalities. The ministers of the nationals concerned sent a joint note to the Government demanding their release. This had no result, and the ministers of every legation in Peking sent a cable to Gen. Wu Pei-fu and notified the Chinese Government that on a certain date an international commission would proceed to Honan to investigate the situation. This stirred up the Chinese Government to action, and they requested that the departure of the commission be delayed one week. This was granted, and at the expiration of one week, on the day which the commission was to start, all of the missionaries were released. Two French railway engineers, who have been held by bandits since August, are still in captivity.

CHINESE BANDITS CAPTURE KUNGCHULING.

The Moukden office informs us that about six weeks ago a band of robbers captured the city of Kungchuling. This same band of robbers is still operating and has more recently captured the city of Shanchengtze, 25,000 to 30,000 population. It is further reported that soldiers are deserting to join these robbers and that the population in the area affected is terrorized.

MILITARY TUCHUNS.

The general impression is that Gen. Chang Tso-lin, of Moukden, and Gen. Tsao Kun, of Paotingfu, who staged the civil war last spring, have made up their differences and are now friendly. Gen. Wu Pei-fu, the hero of the country during the civil war, seems to be considered more or less down and out, due to the desire of his master, Tsao Kun, to put him in the discard.

CHINESE SOLDIERS SHOOT AN AMERICAN.

At Kalgan, on December 11, Mr. Charles Coltman, of the Mongolian Trading Co., was shot by Chinese soldiers in the presence of the American consul. His death occurred at the Rockefeller Hospital, Peking, on December 15. This affair is considered most serious by the American Legation and other nationals in Peking. We quote the following information, which can be considered official, and which was brought out at a recent meeting of the Peking American Chamber of Commerce:

The minister, on first hearing the news, acted promptly in communication, both with the State Department in Washington and with the Chinese Government here. As soon as the consul and Mr. Wooden arrived and reported the

facts, the minister sent a very strong note to the Waichiaopu, perhaps the strongest note ever sent by an American minister to the Chinese Government.

Immediately after learning of the death of Mr. Coltman at the hospital the minister paid a visit in person to the Minister of Foreign Affairs and said that he held the Chinese Government accountable for the murder of an American citizen and a murderous attack on the American consul.

The Minister of Foreign Affairs stated that an immediate investigation would be made. To this the American minister replied in the firmest tones that although further investigation might reveal facts as yet unknown, no investigation could alter the known fact that an American citizen had been murdered by Chinese soldiers, who at the same time had made a murderous attack on an American consul, and that the Chinese Government would be held accountable.

In the meantime all the facts were placed before the American Government with a strong statement concerning the character of this outrage.

The Tientsin and Peking American Chamber of Commerce and the Peking American Association have passed resolutions supporting the action of the American minister in regard to the murder of Mr. Coltman.

CHINESE SOLDIERS FIRE ON ITALIANS.

On December 16 another outrage against foreigners occurred on the Peking-Tientsin road near Tungchow. Two Italians, one of them the chief of police of the Italian concession in Tientsin, were proceeding from Peking to Tientsin by motor car. The Chinese soldiers demanded a road tax of $1.90, for which the Italians offered a $10 bill. The soldiers were unable to make the change, and the Italians, after awhile, proceeded on their way. The soldiers then opened fire on them, which continued after they got out of their car. Fifty-two bullet holes were found in their car. Fortunately, no one was injured.

CHINESE DISRESPECT FOR FOREIGNERS.

The present growing disrespect of the Chinese toward foreigners and increasing antiforeign feeling is undoubtedly due to the fact of the militarists' rule in China, for which there is no redress, and also to the large influx of poor Russians into China, who are subject to Chinese law and whom the Chinese treat with the greatest contempt.

GERMANY.

AN EYEWITNESS'S ACCOUNT OF THE FIRST DAY'S OCCUPATION OF ESSEN BY THE FRENCH.

January, 1923.

In view of the recent serious disturbances between the native population of the Ruhr and the occupying forces, the following account of the first day's occupation of Essen, by an official eyewitness, is quoted as of interest.

"The writer arrived at Essen at 8.20 a. m. on the 11th instant and observed the occupation of this city.

"The French detachment directed on Essen consisted of armored motor cars, a cyclist company, cavalry, and infantry. As the column approached the western suburbs of the city, the armored motor cars and infantry in trucks continued their advance directly into the city from the suburb of Brodony, while the cavalry moved in small columns to various points on the outer edge of the city and when all troops had arrived at their posts a simultaneous advance was made into the city from many directions, each small group moving directly to its assigned objective. The deployment was completed about 11 a. m., and the leading elements of the troops arrived in the center of the town at about 12 noon and occupied the post office, railroad station, and the rathaus. The movement was carried out in an extremely businesslike and efficient manner. Armored motor cars and cavalry patrols arriving almost simultaneously at their objectives.

"The armored cars took position at the corners of the squares containing the buildings to be occupied. Machine guns were promptly placed in position at the corners of the squares and sentinels were posted on the sidewalks who required all passers-by to keep to the middle of the street, thus keeping the sidewalks clear. As the post office and railroad station occupied adjacent squares the operation here included the occupation of both buildings. Two squadrons of cavalry arrived promptly and some infantry in trucks, one squadron occupying the street in front of the post office, forming a line on the sidewalk opposite the building, and the second squadron taking its position in the open space in front of the railway station.

"The infantry, dismounting from the trucks, took position on the sidewalk and in front of the doors of the post office and small guards immediately entered the building through all entrances. As the groups promptly placed themselves on the sidewalks and in open spaces, the ordinary traffic in the streets was hardly disturbed in spite of the huge crowds of onlookers that filled every available space. The street cars, vehicles, and foot traffic continued to pass freely.

"The operation at the rathaus was more impressive. Here the ceremony of occupation took place. Three general officers with a regiment of cavalry (the Eighth Dragoons) and seven armored motor cars as escort entered the square. The commanding general taking his place in the center, with the troops formed about him in hollow square, read a proclamation which announced the policy of the occupying forces toward the population, etc.

"In all of the streets entering the square and crowded up against the horses of the cavalry was a dense mass of people through

which the cavalry and armored motor cars had to more or less thread their way on leaving the square.

"The units identified as having arrived in Essen on January 11 were 10 armored motor cars armed each with one 37-milimeter (one-pounder) gun and one machine gun; the Eighth Dragoons (cavalry); Twenty-first Cavalry (one squadron); Fourth Cyclists (one company); One hundred and sixty-ninth Infantry (one battalion). In all the writer saw not more than 1,000 or 1,200 troops.

"The troops made a first-rate appearance. Their equipment was in excellent condition, and they appeared to know exactly how to do the job.

"The writer saw no signs of unpleasantness toward the people.

"The German police cooperated by looking after the crowds almost entirely, keeping traffic always clear and in answering inquiries made by the French as to routes to be followed.

"There was no clash of any kind and the crowds were extremely quiet and orderly, generally very serious in their facial expressions but smiling faces were not uncommon. Perhaps an end of the suspense and dread was an agreeable relief now that something definite had happened.

"About 6 p. m. (the 11th) the writer again went to the rathaus square to observe the conduct of the crowds. A considerable number of boys, about 14 to 16 years old, with here and there an older head among them, were making cat calls and insulting remarks toward the lighted windows in the rathaus where the rooms were supposed to be occupied by French officials. It was not of a serious nature.

"At 6.30 p. m. the regimental trains began to arrive and passed through the dense crowd at the railroad station. This crowd was made up of all sorts of people, many of whom were doubtless making their way home at this hour, and while they crowded close up to the street, leaving a very narrow alley for the trains to pass through, their general attitude was not hostile in appearance. Occasional laughing exchange of remarks between drivers of the carts and members of the crowds was observed.

"Proclamations were posted in conspicuous places in the afternoon, in German and French. The gist of these proclamations is to the effect that the occupying forces will take charge of the public buildings, post offices, railroad stations, the coal offices, etc., and that all affairs of the community, both official and private, will continue as at the moment of occupation. The people are free to come and go both night and day, the only requirement being that they must have their identification cards; it stated that disturbances or disorder directed against the safety of the troops would be promply suppressed.

All officials were directed to remain at their posts, railroads and all other public utilities to continue operation.

"The writer left Essen at 10.10 p. m. All trains leaving the town up to that hour of the night moved on schedule time and in general the ordinary life of the city seemed not to be disturbed by the arrival of those troops. All street traffic remained quite normal. At 10 p. m. there were no signs of crowds anywhere in the street."

GERMANY.

LECTURE BY DOCTOR EHRENSBERGER UPON THE SUBJECT OF KRUPP ARMOR PLATE.

Note: The illustrations and figures quoted in the lecture are not available.

The first part of the article is devoted to the general history of armor-plate manufacture, taking up in detail the manufacture of the compound plates and their special properties; the manufacture of the characteristics of the nickel-steel plates; computation of the resistance of the armor plates; manufacture and properties of the nickel chrome-steel plates; and technical and metallurgical details in connection with the manufacture of armor plate, all fully illustrated with photographic reproductions and diagrams.

Doctor Ehrensberger said in part:

This Krupp plate was not only used by the German Navy up to the very last but it was also used by all the foreign navies, while all the large armor factories of the world now use the Krupp process. If there is any deviation at all in the process of manufacture, it is merely some slight change in the analysis or some subordinate intermediate process, while the really important part, the tempering process (known as differential heating or "trempe differentielle") has been retained. The perfection of this method is demonstrated by the fact of its universal adoption in the world at large. Where any other systems have been adopted, they have always proven to be disappointments and were the result mainly of the use of inferior projectiles.

The former chief of the ordnance department of the German Navy Department writes as follows:

"At the time of the outbreak of the war other countries had not reached the perfection in armor plate represented by the Krupp product of 1895. This was clearly proven by tests held on the firing ground in Meppen in September, 1912, in the presence of representatives of foreign firms, the tests being made with the plates manufactured by Schneider & Co., Chatillon, Commentry & Neuves Massons (Charpy plate), and a Richardson plate. The last test showed not only the poorer quality of the plates but also the vast superiority of the Krupp armor plate over that of the United States. Foreign armor-plate works also made special efforts to improve the quality of the plates through the addition of other materials. For instance, the French firm of Schneider & Co. in Creusot made plates with various additions of steel according to an improved method based on the Krupp patents. It was claimed

that this process gave an increased velocity of penetration to the armor-piercing shell. Firing tests with such plates in comparison with Krupp plates of similar thickness showed that the Schneider plates, in spite of their more difficult and expensive manufacture, were not better than the other, all of which goes to prove that in spite of the most earnest, serious efforts, it has been impossible to make a better product than the Krupp plate."

As a result of the development of the capped shell in the eternal battle between projectile and armor, the weight of advantage fell to the projectile, and a real improvement in the plate was not only greatly desired but also became very necessary. The capped shell, an idea originating with Admiral Makaroff in Russia, remained undeveloped until taken hold of successfully by the Krupp works. It was an ordinary armed projectile fitted with a cap of tough nickel steel in the form of a cone, soldered on the end of the projectile with a liquid solder at low temperature. The cap which also surrounded the end of the shell, prevented the latter from breaking upon impact with the plate, but it was naturally itself removed. As early as 1902, the Germans were able under favorable conditions to penetrate 30-millimeter tempered plat with capped shells of 15 centimeters caliber, while a 30.5-millimeter shell penetrated a 40-centimeter plate without damage. After it subsequently became possible to penetrate the plates with an explosive shell made of selected steels and fitted with a delayed-action fuse, whereby the shell detonated after penetrating the plate, it then became necessary to use a much heavier armor plate if such were really to act as a protection.

However, in the 20 years of labor along these lines, Krupp was never able to attain any further real improvement in the quality of the plate. The improvements made had to do solely with the manufacture of much thicker plates, more capable of nickelization, and welded together in an exceptionally firm manner through a specially developed process.

The naval Battle of Skagerrack furnishes the real verdict on the Krupp plates. All the enemy shells shattered on impact with the German armor plate, even those superior to our 34 and 38 centimeter guns. Admiral Rogge says further: "There was no enemy armor plate behind which the shells detonated. The English only succeeded in getting fragments of shells behind our armor plate."

Admiral Jellicoe in his work entitled the "Grand Fleet" states in effect that the Battle of Skagerrack convinced the British that their armor-piercing shell was inferior to that of the Germans in point of penetration and that the old armor-piercing shell of a special caliber such as was used in the Battle of Skagerrack, splintered upon oblique impact at battle distance, bulging the plate for a certain amount. The shell could not reach the vital parts of the ship.

If in addition to the above it is remembered that the German shells of only 28 and 30.5 centimeter caliber penetrated the plate without splintering and were able to detonate behind the armor in the inside of the ship, this also proves the superiority of both German shells and armor. This fact is not altered in any degree by the statements of the British based on their firing tests with the German ships allocated to them by the treaty of Versailles.

Admiral Rogge states further: "We have been in a position to make firing tests with English plates manufactured after the Krupp process—the 'Krupp cemented' and 'Krupp noncemented plates'—in comparison with the Krupp and Dillinger plates. These tests demonstrated the superiority of the German plates by 10 per cent of the strength of the plate. Apart from the lesser resistance of the English plates, they also showed a scaling of the hard outer surface and a number of more or less deep rents which went to prove that

the resistance of the plates suffered even in portions of the plate which were not struck. In firing upon these plates with a stronger caliber which the German plates threw off, the English Krupp-cemented plate broke in two pieces when penetrated. According to our requirements, such plates were absolutely unacceptable."

Doctor Ehrensberger now takes up the technical and metallurgical details of the Krupp process, as follows:

The first requisite for good plate is splendid steel. This was smelted in the Siemens Martin basic open-hearth furnaces; other forms of furnaces suitable for mass smelting are absolutely worthless for this purpose. We built our furnaces of 30 to 40 tons charge with high scaffolding and with horizontal flame not touching the bath, in order to prevent the rapid oxidation of the bath. This was the only way in which it was possible to keep the very restricted limit of error of analysis. The analysis of the nickel chrome steel used is as follows:

	Per cent.
Carbon, as exact as possible	0.35
Nickel	3.75–4
Chrome	1.75–2
Mangan	.30–.34
Phosphorus and sulphur, not over	.035

The greatest possible weight was laid on keeping the above proportions exact, so that the end product would be always the same.

Since one had to reckon on about 50 per cent waste, half of the charge consisted of scraps and drillings, the chrome contents of which were mainly lost. Every steel workman knows that there is no pleasure in working with slack with such a high percentage of chrome contents. This made it all the more important to attain the desired analysis. For the pig iron, we took hematite iron with about 1 per cent mangan and 2.5 per cent silicium, as one-third of the entire charge. Otherwise good steel scraps were used. The nickel was generally added as pure nickel, and the chrome as 60 per cent highly carburized ferrochromium. The latter was introduced into the furnace in a red-hot condition at the end of the smelting, and the steel tapped immediately after melting down. The tapped steel was exceedingly mobile and was quieted by an addition of aluminum in the ladle. The aluminum was not used as pure metal but in the form of an alloy, made and patented by us, known as A. M. S. metal and consisting of 5 per cent aluminum, 10 per cent mangan and 10 per cent silicium with iron. By using this alloy, we prevented the separation of aluminia (tonerde), and the latter was slacked with the oxyden of the mangan and silicium (forming at the same time). The slack gathered in drops and rose on the surface. An addition of alloy amounting to 0.7 per cent of the weight of the charge, corresponding to 0.035 per cent aluminum, was ample. Any more was unnecessary and disadvantageous. The alloy prepared in the form of small cubes was also put in the ladle red-hot; the steel was then always perfectly quiet.

We only wanted to have a very small quantity of silicium in the steel because its employment made the heat treatment difficult. For the same reason large quantities of mangan were undesirable; we therefore used the above-mentioned percentage of 0.3 per cent for attaining the necessary heat ductility with reference to rolling and bending.

The steel was poured into cast-iron slab bloom forms without heated end from one or two furnaces, depending on the size of the plates. The casting

period amounted to about one minute per ton; less when the slab bloom was very large. The slab bloom was allowed to cool until the steel in the inside was completely hardened; the time between casting and drawing off the ingot was prescribed for every size of slab bloom, and this time was held to minutely. We always had, for that matter, the most exact instructions even for apparently unimportant details in connection with plate manufacture, such as time data, temperature statistics, and the like, in order to prevent any accidental results due to irregularities. The employees and workmen were held to these regulations very strictly, and this I consider the reason why our product was always uniform.

After the casting came the rolling of the ingot. The rolling achieved the double purpose of forming and refining the texture. The texture is all the coarser in the ingot the larger the quantity of ingot. Crystals measuring several centimeters in diameter are often found. This dendrite texture is almost completely destroyed by the rolling.

The slab bloom goes into the already described reheating furnace, where it is slowly heated to 1,150°. This degree of heat must be reached in a prescribed time and the bloom is then rolled in a rolling mill. The reversal machine was a Sack & Kiesselbach of 10,000 horsepower; the rolls were 4.5 meters in length with a diameter of 1,250 millimeters. The rolling mill with all its appointments was constructed by us on the basis of our experience. This very powerful machine had arrangements for throwing off, taking in, and turning the slab bloom; there was also a device for turning over which had proved very practical and enabled easy cleaning of the plate surfaces, which naturally should be as smooth as possible. The rolling was done very slowly, and in the case of plates of 40 tons weight it lasted over an hour. At the end the tappings were only a fraction of a millimeter. The rolling was done above and beneath with water cooling. All this was done so that the rolling would penetrate into the interior of the ingot. Many plate manufacturers, especially the American, were of the opinion that it was preferable to forge the slab bloom under heavy forging presses. I have always been convinced that the rolling is preferable on account of the more regular effect, quite apart from the greater economy and practicability. The pressing is more expensive, and, besides, the entire pressed plate has to be smoothed subsequently while we use our plates with the original rolled surface. As a matter of fact, most all manufacturers now prefer rolling.

The rolling of the plates is very hard on the rolls on account of the long duration of the rolling, and the upper surface of the slab bloom becoming dark and hard on account of the water cooling. We had best success with cast-iron rolls of very pure hematite containing a small quantity of mangan. Steel rolls, even when hollow, were not satisfactory in the long run.

After the rolling the plates were drawn off, so that they cooled evenly from all sides, even from the bottom. For this purpose they rested on triangular struts about 1 meter in height.

The plates are now put into the bending press practically straight, and the press is heated to 630° to 650° for this purpose.

After cooling, the ends are separated by means of special appliances, and the upper surface of the plates is cleaned off smooth by means of a chisel apparatus operated by electricity.

Now came the cementing of the upper side. This was done according to the Krupp illuminating-gas cementing process, patented in 1893, and used by a number of plate manufacturers. This was based on the well-known fact that

carbohydrogen disintegrates under the action of heat. This process seemed especially promising on account of the fact of the fineness of the carbon and also the circumstance that the gas penetrating every portion of the plate surface would effect a very good and even corbonization of the steel. All expectations were more than fulfilled on account of the safety of the process, the simplicity of supervision, its cleanness, and rapidity as compared with the cementing with ground charcoal.

For every cementing, two symmetrical plates were selected (starboard and port). One was placed over the other, with the front surfaces turned toward each other and separated by a frame made of iron rods of 100 millimeters. The packing of the iron bars was effected by a refractory mass. In this way a chamber was formed in which the illuminating gas was passed back and forth through iron pipes. In order to prevent an excessive burning of the outer surface of the plate in the furnace the pack was washed with a wash made of loam and soda. The pack was then introduced slowly and carefully in a furnace previously heated to 600° and which was generally large enough to hold several such packs. The heat was then gradually increased to 950°. Just as soon as this figure was reached, the illuminating gas was introduced into each pack through two pipes, the gas dissolved, and then passed out through two other pipes. The two pipe coils were interchangeable for inlet and exhaust. The dissolution of the gas passing out into the open could be immediately detected by the slightly yellow, nonilluminating flame. The following table will show the dissolution of the gas:

	CO_2	C_nH_{2n}	O_2	CO	CH_4	H_2	N_2
Illuminating gas (volume).....	0.7	3.45	0.5	5.33	32.3	51.06	6.56
Dissolved gas (per cent).....	0	0	0	9.14	6.08	79.43	5.34

Each pack was attached to a special gas meter. The quantity of illuminating gas necessary for the cementing of every thickness of plate was established and regulated, and had to be used within a certain definite period of time. About 160 cubic millimeters of gas were necessary for a 10-centimeter plate; for a 40-centimeter plate the quantity was 280 cubic millimeters per every square meter of plate, while it required 9½ days to cement the first and 15½ days for the second.

When the plates were removed, the packs were completely filled with lampblack. If the temperature was increased to about 1,050°, then the lampblack was more graphitic in character and the cementation took place much more rapidly. The grain of the cemented layer was very coarse and rough. Because of this we kept the heat always at a point between 950° and 960°; this produced a much finer grain, although the cementing process took much longer. Analysis showed by an average of 70 plates of varying thicknesses, cemented one after the other, that the carbon was enriched from 0.35 per cent to 1.56 per cent in the first 5 millimeter-depth; to 1.08 per cent in the second, and to 0.64 per cent in the third. The cementation ceased between 25 and 30 millimeters.

The cementing furnaces, which were generally used also as heating furnaces for the rolling machinery or for the tempering, were built as regenerating furnaces with open flame so that the material in the furnace never came directly in contact with the flame. These furnaces had a length of 15 to 22 millimeters. As queer as it may sound, these furnaces enabled the temperature to be kept at the required figure within 5°. Great stress was laid on the question of

exactness, and the Krupp personnel quickly adapted themselves to this requirement. Without such meticulous exactness a successful armor plate was purely a matter of accident. The temperature was watched by means of an electric pyrometer of our own construction, consisting of platin rhodium elements, which were always in the furnace and were protected by a casing of circonium glass. The pyrometric measurement of temperature was centralized; the electrical pyrometers were tested many times every day. After the cementation was finished, the texture of plates was brought to the highest possible degree of tenacity by tempering at a high temperature and then at a lower temperature. The heating and cooling curves of the steel indicated in illustration 20–22 served for the selection of the required temperature. These curves were taken with a Le Chatelier Saladin double galvanometer: Number 20 is at a 90-minute cooling period, number 21 at 180, and number 22 at 280. The cementing heat was immediately used for tempering the plates. Toward the end of the cementing process, the cementing was allowed to cool 850° to 880° (according to the carbon contents of the plates) and the plate was then plunged vertically into a tank filled with rapeseed oil. These tanks held about 125 cubic meters and were made to accommodate the largest plates. We used rapeseed oil exclusively, although mineral oil with a flaming point over 300° could also be used. The tanks stood in flowing water and the warm oil was pumped continually through a pipe-cooling apparatus. The plates were not allowed to cool off entirely in the oil on account of the danger of springing. The cooling was only brought down to 300°. This cooling period was naturally regulated exactly for every plate thickness and varied from 20 minutes in 8-centimeter plates to 2 hours for 40-centimeter plates. Illustrations 23 to 26 show the texture of the plates after this tempering. Figure 23 gives a general view of the cemented layer of a 20-centimeter plate in its entirety (magnified 10 times). The white lines are cementite (carbide of iron); the dark surfaces are entectic and consist of martensite and troostite. The gradual decrease in cementation from the top down can be easily seen. Figure 24 shows the outside layer and Figure 25 a point 6 millimeters from the outside layer (magnified 150 times). This shows very clearly the white cementite, the pin-like martensite, and the troostite. Figure 26 shows the reverse of the plate (magnified 200 times) after the oil tempering; there is no more cementite here and the texture consists solely of martensite and troostite. In plate manufacturing, the stages illustrated from 22 to 26 are not apparent, as the plates are taken immediately out of the oil and put in the warm furnace again. These furnaces were previously heated to a red-hot point and the plates then were slowly and evenly heated to 630° to 650° according to the composition of the steel. This heating, the duration of which was exactly prescribed, had to be done with special care and exactness. It depended on this whether or not the steed had the desired sinewy texture. If the plate had the desired temperature, it was then quenched in oil, an agitated water bath, or under the water faucets. Because of its cleanliness and lesser expense, we chose the water bath, in which the plates remained until they were entirely cooled.

It will be seen that this process represents the already mentioned "double tempering" which produced the very highest degree of tenacity available.

Figure 27 (magnified 200 times) shows the texture of the cemented layer after this treatment. As a result of the tempering, the martensite has disappeared; the white veins are cementite and the dark spots troostite. Figure 28 shows the texture of the back side, magnified to the same degree, and consists of even, fine-grained perlite which indicates that the steel is in its softest and most sinuous state. In this condition the plates were most easy to manipulate, and they were then turned over to the workshops.

The plates were now bent into shape by heavy hydraulic presses up to 10,000 tons pressure. For the purpose of bending, the plates were heated to a slight red-hot heat, mostly to 700°, but this temperature could never be exceeded under any circumstances. The bending of the plates took a great amount of patience and required extremely clever workmen. These had to take the greatest possible care that the plates were returned to the furnace for reheating at the proper moment, as soon as they did not seem any longer sufficiently plastic on account of the cooling. Otherwise cracks and breaks were unavoidable. Uncemented and untempered plates were immediately given their final form, while the plates which had to be tempered on the outer surface were bent in a "false" form owing to the changes in form through the tempering process. Uncemented and untempered plates were not made for the German Navy, as we tempered and hardened down to 8 centimeters, while other plate manufacturers did not go below 15 centimeters. Flat plates became convex after tempering and curved plates became even more so. These alterations in form, which were slighter in thick and bent plates and were greater in flat and thick plates, followed very complicated laws which were established with great difficulty. I will only state that the alteration in form per meter, plate length, and width, amounted to a minimum of 3 millimeters and increased to 18 millimeters, which had to be taken into consideration in bending.

After the bending pieces were taken off the upper plate end in the entire thickness of the plate, for the purpose of breaking tests, and these were broken under the presses in order to certify that the heat treatment had rendered the texture of the steel sufficiently tenacious. If this was not the case, which only occurred very rarely, then the water cooling and, under certain circumstances, the tempering in oil had to be repeated until the desired texture was obtained.

The plates were then sent to the workshop, where they were almost finished on the sides, and a number of test pieces were left on both ends for a subsequent supervision of the tempering.

After the work had gone this far, the final tempering was done. We were of the opinion that the original process of heating could only be temporary and that a more perfected process would be attained, but this proved so entirely satisfactory and simple and so easily regulated that we and all other plate manufacturers retained it permanently.

For the heating for the final tempering, the bent plate was laid on a bed of damp sand at least 20 centimeters high, set on an under plate, 10 to 15 centimeters thick. The plate itself was surrounded with a loose wall up to the edge so that only the front side was visible. Such parts of the plates which must later be cut out, for instance, openings for port holes, etc., and also the edges of the plates, were covered with a layer (asbestos plate) having slight heat transmission properties, in order to prevent too strong a tempering. A number of steel cylinders for estimating temperature by means of water pyrometers were laid under the plates. The whole pack was now put into one of the furnaces already mentioned and which previously had been warmed for several hours to 1,000°. This latter was necessary so that the chambers would have a sufficient heat reserve and the front side of the plate could be heated as soon as possible.

The temperatures of the furnace and the plates were now continually measured. There were the most meticulous instructions regarding the temperature for each thickness of plate; everything depended on the question of minutes. It can be said in general that the plates must remain in the fur-

nace one minute per millimeter thickness, which would mean that a 30 centimeter plate would require five hours.

If the stipulated heating was reached, then the fire was removed, the temperature of the front and reverse sides of the plates was tested through optical and water pyrometers, and the plate sent off for the tempering.

The hardening was effected by means of a very powerful stream of water, above and below. The lower pipe coil was arranged on a portable wagon which automatically established connection with the hydraulic system when running in the tempering room. The upper pipe coil was stationary. The water pressure amounted to about 5 to 6 atmospheres and the water consumption amounted to 1,500 cubic meters per hour.

The coils could be shortened for smaller plates in order to avoid unnecessary waste of water. When it was necessary, as at Essen, to pump the water from long distances, great economy had to be practiced. Therefore, the water was repumped into a tank from where it was carried to the tempering plant. Care had to be taken that the first water touching the plate was cold; it made no difference if it became a little warm at the end of the process. The plates had to remain in the tempering plant until they were entirely cooled. This required one hour per 10-centimeter plate thickness, or a 30-centimeter plate remained three hours. The following will show just what temperatures were attained: 850° for the upper side of thin plates and about 900° for the very thick ones, while the reverse side of thin plates required 450° and of thick ones, 550°.

After the tempering, pieces for the breaking tests were cut off both ends of the plates and broken cold under the presses so that it could be seen if the tempering was successful. About one-third of the thickness of the plate had to show tempering or hardening. Tough strains had to connect directly with the fine hardened grain. Figure 29 shows the cemented outside after the final tempering. The texture is supereutetic and consists of cementite and martensite. The cementite decreases toward the back; this can be seen from illustration 30, which is taken 6 millimeters from the outside layer. There is a completely eutetic zone behind the outside surface. This is practically textureless martensite, such as is obtained when the heating for the tempering is taken exactly at the critical point "Ac."

Naturally in the differential heating of the plates there is always a zone somewhere conforming to the requirement. Illustration 31 shows this zone. Illustration 32 is taken from the rear of the plate and shows the same fine grained perlite texture shown in illustration 28 after the cooling from 630°.

When it can be shown on the testing samples that the hardening has not followed the requirements, then the plate must be reheated to 630°, rebent, and again hardened.

Through a long or short heating at the final hardening, the depth at which the tempering is to enter the plate can be controlled and eventual differences in analysis adjusted.

If there is a question of irregular thicknesses of plates, for instance, rider plates which are thinner under the water line (see illustration 33), then at the time of the heating for final hardening, the thinner part was protected, and this protection was removed in such a way and to such an extent that the thinner parts only received the quantity of heat stipulated.

The form of the finished plate was then tested according to the drawings or on the basis of the models or designs furnished by the shipyards. There was usually some slight deviations in form which had to be removed. This was done through the so-called after pressing under the bending press, where the

plates either remained cold or were warmed slightly up to 150 to 200°. Care had to be taken in this pressing that the tempered layer was only subjected to pressure and not to strain, as otherwise there was danger of the plate breaking. A plate becoming too flat in the hardening process was useless. It had then to be softened, rebent, and retempered. Care had, therefore, to be taken that a plate was more curved after the final tempering than was really necessary. The excess curvature could be very easily removed through a careful after pressure, and I can state that our plates filled the most complicated requirements exacted by the shipbuilders. After satisfactory tempering, physical and chemical tests were also carried out.

Naturally the strength of the cemented plates could not be ascertained by breaking tests. Under the cemented layer where the steel could still be manipulated, we obtained strength calculations of 140 to 160 kilograms by 5 to 3 per cent elasticity, which figures were reduced on the rear side to about 75 kilograms strength and 18 per cent elasticity. On the other hand, the toughness or tenacity of the notched bar increased from 8 to 22–24 mkg. I would like to correct a statement which I made above, which gives the impression that the reverse side of the plate must have a tough fibrous texture if the plate is not to crack when fired on. This is indeed true in so far as regards the steel alloy used by Krupp; however, the composition of the steel can be changed by otherwise unaltered thermal processes; besides there are alloys which are suitable for plates but which can not be given a fibrous texture. In the latter the toughness or strength of the notched piece must be at least 18 mkg. if the plate is to be free of fissures under fire.

Another test of great importance for the subsequent testing of the texture of armor plate was the chemical examination. It is easy to see that the diversity of the steel texture in grained and fibrous conditions can be shown subsequently by a chemical diversity. In treated steel, chrome and carbon are found in solution, while the same steel, when the texture is fibrous, contains a portion of the chrome and carbon in the form of a chrome iron carbide of the formula $Fe_7Cr_3C_3$, the more perfect the fibrous texture the tougher the steel. The quantity of carbide in the steel can easily be ascertained by analysis. It is only necessary to bore out a sample from a bolt hole on the reverse side and subject it to chemical analysis. Illustration 34 shows the quantity of carbide ascertained in this way or the chrome present in the form of carbide. In the middle of the plate the quantity amounted to about 1.33 per cent. Since the steel contains 1.8 per cent chromium in all, in the fibrous part of the plate approximately 75 per cent of the chrome was secreted in the form of carbide. On the reverse side of the plate the chrome contents in carbide form were reduced to 1 per cent on account of the decarburization of the rollers through the many heat treatments. The carbide contents begin to decrease about half way through the plate and in the proximity of the cemented layer, after which it is no longer possible to make drillings. The chrome contents in carbide form amount to 0.37 per cent. By comparison of the carbide analysis with the breaking tests, experience has shown that the hardening begins where the carbide curve has the steepest fall—in the case in question 22 centimeters from the reverse side. This simple test proved a most admirable means of judging the quality of the plate. The comparison of this curve with the curve of the ball pressure test from a cross section of the plate should be very instructive.

If all tests and reports, etc., were entirely satisfactory, then the plate was turned over to the workrooms for the final touches. After the tempering, the front edges of the plates could only be manipulated by grinding, and we had various special machines for this purpose. Those hardened portions of the

plate could be made the proper size without special difficulty by means of filing and milling. The plates were joined together by overlapping, grooving, and tongueing, or by means of keying. The screws were made of soft nickel steel; all these methods proved entirely satisfactory during the war; none of the joinings separated.

Openings, such as, for instance, portholes and the like, which had to be bored in the hardened surface of the plate, were not difficult if these places had previously been softened, which we managed with an illuminating gas-oxygen welder. These spots were not allowed to get red hot in order to prevent their rehardening.

The requirements which we had to meet in order to keep pace with the rapid development of the armored vessel were very extensive in so far as regards the form and size of the plates. Many of the plates were actual works of art. The largest tempered plate which we made measured 6.7 by 3.1 meters. The average weight of the plates amounted to approximately 15 tons during the last five years.

The plates were all subjected to firing tests before final acceptance, and these acceptance requirements naturally varied greatly. The German Navy required that the plate, fastened on the wooden backing and an iron background, be fired on by steel shells equivalent to the thickness of the plate or superior to it. Calibers exceeding 30.5 centimeters were not employed on account of their great expense. The strains which the plates had to sustain varied greatly with the thickness. In thin plates the velocity of impact was about 155 per cent, in thick plates about 145 per cent of the velocity of penetration estimated according to the de la Marre formula. The plates were neither to be penetrated by the three to five shells fired nor were they to be fissured through the plate. If the plates stood the above test, then the entire plate material was accepted; if the contrary were true, then several tests were made with plates from the same set of material. If the tests failed in these, then the whole material was refused.

The above-described method of cementing, tempering, etc., can only be used in the case of steel casting and naturally the latter will only be used if the form required can not be made of rolled material in any way.

Owing to our careful method of preparation not one single lot of material was ever rejected during a period of 28 years, in which 183 lots of plates as tests for 184,000 tons of plates were subjected to acceptance tests. The same is true of the Dillinger works.

GERMANY.

POLITICS IN THE NAVY.

January, 1923.

The committee of the Reichstag charged with the investigation of the army, yesterday took up the reports in connection with the question of the singing of unpatriotic songs in the naval school at Murwik and in the navy as a whole. The opinion of the committee was that the same energetic action must be taken against the "right" tendencies as against the "left." The impression, however, was gathered at the time that great restraint and tolerance must be observed in the former case. This may explain the fact that in

spite of all efforts these unpatriotic songs can not be stamped out of the navy.

The Reichswehr Minister stated that he observed a very strict line of conduct in this regard and was extremely positive in his action against the "left" as well as the "right." Unpatriotic sentiment as expressed by the singing of the Ehrhardt and Lowenfelt hymn would always be summarily punished by dismissal. The Murwik incidents, which were still pending, were turned over to the chairman of the committee for detailed examination, with instructions to report on the result of his investigations at the next meeting.

GERMANY.

PROPOSED TRANS-ATLANTIC AIRSHIP SERVICE.

February, 1923.

In a recently published article, Herr Engberding, who was formerly connected with the Government Bureau of Aeronautics and is one or the directors of the Schütte-Lanz Co., states, in part, that on account of the restrictions of the treaty of Versailles and the subsequent regulations of the Aeronautical Control Commission setting 30,000 cubic meters as the maximum airship allowed Germany, the latter was faced with the problem as to whether airship construction was to be abandoned entirely, or carried on merely in the interests of foreign countries. The latter alternative was decided on, with the Zeppelin Co. in Friedrichshafen turning its interests to the connection between Spain and South America, and the Schütte-Lanz Co. forming connections with America, with the underlying intention of subsequently developing a transcontinental, and later on transoceanic, air service. This combination, the "General Air Service," comprising a number of influential American companies in close affiliation with the German company, will develop an air service between New York and Chicago, using three Schütte-Lanz ships of 110,000 cubic meters each. The capital stock of the company is given as $50,000,000.

One hundred and ten thousand cubic meters is considered the minimum size of airship which can be operated on this scale profitably. Smaller ships would be out of the question for long-distance service, for , as is well known, the useful load increases more rapidly than the volume. The dangers of hydrogen gas have been removed through the use of helium, and that of benzine through the contemplated use of heavy oil motors. Even without these improvements,

the Schütte-Lanz ships and other similar ships exhibit a remarkable safety through the employment of several motor cars located at given distances from the hull of the ship. The strong air current of about 50 meters per second existing between the cars and the body of the ship serves as a sort of curtain which protects the airship itself from the action of the motors.

It is estimated that the journey from Berlin to New York will take from two to two and one-half days. The price will only be slightly higher than the first-class steamship fare. An airship of this size will accommodate about 100 passengers and then there will be also the item of the postal service.

GERMANY.

SITUATION IN THE RUHR.

February, 1923.

The following data and views are supplied both from sources well in the confidence of the German Government and also from neutral observers in Germany.

With the exception of Krupps, all industrial enterprises, coal mines, etc., are united in the strong will to oppose by every means the French invasion. This opposition is the result of a definite and well-established plan. Krupps would have preferred the attempt at further negotiations, but they are the one exception. Private officials as well as work people have been most emphatically informed of the necessity of resisting, and in order to safeguard their interests and to enable them to live, employers have given binding undertakings that if strikes are necessary, full wages will be paid quite independent of the length of time the strikes may last. The Government on their side have taken all necessary steps to insure the provision of food for the working classes in the newly occupied area.

The French hope that this passive resistance can not last is an absolutely false one. The German ruling idea is that wherever force is employed, passive resistance or strikes are to be the reply; where force is not employed the "white strike" is to be enacted, which means the employees will report for work but do practically nothing, and as the men know that they will receive their wages just the same, they are prepared to support the idea wholeheartedly.

To anybody who knows the Ruhr district it is quite clear that without the active support of the entire German staff it is utterly impossible to run the area which is not only greatly complicated in

its physical aspect, but especially by the very intricate netlike railway system, in which there is hardly a thousand meters of track without very complicated switches. It has taken many years to train to the present state of efficiency the enormous staff regularly employed in handling this maze of lines, and the first result has been a complete blockade at all main railway junction points, a fact which will assume far greater importance if the whole population becomes inflamed through the employment of martial law, and at that time resistance will change from passive to active.

The number of trained German engineers and mechanics throughout the Ruhr is estimated at about 150,000 with a further 100,000 men engaged in office administration. In addition thereto, there are approximately 1,000,000 miners.

In the event of the French attempting to hermetically close the district, Germany will not unduly suffer as she is provided with coal for at least six months. The lignite deposits of Saxony and the mines in Silesia will be worked at high pressure. Consumption has been reduced, and so far this winter has been a mild one and the demand for coal for domestic purposes is light. The textile industry is at a standstill and industry in general is actually working about 75 per cent capacity; train and light services have been reduced to a minimum by strict Government regulations.

France is trying to organize an entire French staff of general administration, is endeavoring to introduce French currency, and has put a very strong propaganda on foot with the very clear endeavor to secure by threats, but mostly by promises, the good will of the broad masses; on the other hand, the local papers are strictly muzzled and unable to counteract.

All these facts are serious indications that France is endeavoring a definite and permanent separation of the Ruhr district from the rest of Germany, in order to group it with the old occupied provinces to a new independent state which would remain under French control; and this would mean war, and the most desperate war the world has ever seen. War is certainly to-day in everybody's mouth; it may be to-day often only " fanfaronnade " and perhaps in many instances a straw fire, but certainly to be reckoned with, whenever the diplomatic constellation of Europe will admit it.

The following is given as the views of a neutral observer:

The German resistance on the Ruhr is mostly based on the good will of the working classes. They may to-day be quite sincere and themselves believe that they have suddenly become nationalists; they may rather like the present state of affairs with good wages and as little work as possible. What is going to happen, however, when food gets scarce and when the French suggest that 10 francs

are equivalent to 250,000 marks, instead of 6,000 marks as at present, for a six-hour shift?

Workmen generally, so far as politics go, are an unreliable lot. They are pronounced opportunists and materialists. Will they resist temptation "a la longuo" when worked intensely by the communists who are well provided with French money and enjoy the protection of the French authorities. If there should be war in the future, the German defense is supposed to be based on cooperation with the soviets.

GERMANY.

STATISTICS REGARDING U-BOAT LOSSES.

Note.—From a recent article published in Germany by one Hartmuth Merleker.

Toward the end of October, 1918, a wireless message was sent to all German submarines that the war was at an end for them. This was four years ago, and it has taken all this time to collect the material relative to the cause of the loss of each single submarine. To-day we know where and how each submarine got lost.

In the single months of the war, the following number of submarines were lost:

	1914	1915	1916	1917	1918	Total.	Monthly average.
January	0	2	0	2	9	13	3.2
February	0	0	0	4	4	8	2.0
March	0	3	2	3	5	13	3.2
April	0	1	3	2	8	14	3.5
May	0	1	2	7	13	23	5.7
June	0	3	0	3	3	9	2.2
July	0	3	3	5	6	17	4.2
August	2	3	1	3	7	16	3.2
September	0	2	2	12	9	25	5.0
October	0	1	0	6	5	12	2.4
November	1	1	5	8	1	16	3.2
December	2	0	3	7	0	12	3.2
Total	5	20	21	62	70	178	3.42

German submarines were lost in 16 different ways. Most of them, that is 37, were lost through water bombs. Then follow closely 36 victims of mines. A further 20 were lost through fights with enemy submarines; 14 were lost through engine and other trouble; 13 were sunk by torpedo boats and destroyers and 12 by submarine chasers; 9 submarines are missing; 8 lost through ramming into other ships of all kinds; 6 were sunk by armed fishing vessels; 6 by bombs from airplanes; and 6 fell victims to the submarine nets in the English Channel and the harbors of the enemy.

Three German submarines were sunk by regular patrolling vessels, 3 by armed auxiliary cruisers, 2 by cruisers, and 2 by artillery fire

from the coast. One boat was sunk by a liner at the entrance of Scapa Flow, and this was Captain Weddigen's *U–29*.

The list showing the localities at which German submarines were sunk is very complete: Fifty-six of them were lost in the English Channel, 26 in the North Sea, 16 in the Mediterranean, 16 around the east coast of England, 12 off the Dutch coast, 5 off the western coast of England, 3 near Helgoland, 3 off the Scotch coast of Flanders, 2 off the French coast in the North Sea, 2 in Scapa Flow, 2 near the Shetland Islands, 2 near the Scilly Islands, 2 in the White Sea, 1 in the North Sea halfway between Norway and Scotland, 1 off the Danish coast, 1 at Horns Riff, 1 in the Atlantic Ocean, 1 in the Bosphorus, and 1 shortly west of Gibraltar, 9 off the coast of Ireland, 7 in the Irish Sea.

To the losses incurred before the delivery of the boats to the Entente are to be added the U-boats which were interned, sold, or demolished by ourselves. Of the boats interned there were sold to neutral countries later on 5 to Spain and 2 to Holland. Fourteen boats were destroyed by ourselves owing to defectiveness; 7 of these in Pola, 4 in Flanders, 1 in Cattaro, 1 in Fiume, 1 in Trieste.

Among the crews of the submarines the losses in men were as follows: Five hundred and fifteen officers, 4,849 noncommissioned officers and seamen killed, a total of 5,364 German sailors. Of the officers 368 were sea officers, 144 engineers, 2 doctors, and 1 torpedo lieutenant.

Of the naval officers, 296 were on active service, 72 belonged to the naval reserves; of the engineers, 130 active, 14 reserve; in all, 2 captains of cruisers, 73 captain lieutenants, 61 active and 60 reserve lieutenants, 29 active and 1 reserve first engineers, 19 active and 1 reserve first engineer candidates, 39 engineer active candidates, as first engineers on U-boats.

At the outbreak of the war, August 1, 1914, 26 German submarines had been completed. During the first year of the war, up to July 31, 1915, 19 submarines were built; during the second year up to July 31, 1916, 65 boats were built; during the third year 101; in the fourth year 99; and then until the end of the war, November 9, 1918, 61; in all, 345 submarines built during the war. One hundred and ninety-nine U-boats were lost, 172 were delivered to the enemy, 224 submarines were in course of construction at various shipyards, and for 220 of these the material had been got together completely.

The building of the submarines, which was at the beginning of the war done by several small shipbuilding yards, was later done by six very large shipbuilding companies. The largest part of the building was done by the Vulkan Werft at Hamburg, which built 89 U-boats and had 37 in course of construction at the time of the armistice. Then follows the Germania Werft at Kiel, as second

in importance, which delivered 79 U-boats and was working on 28 more at the end of the war; then comes the firm of Blohm & Voss, Hamburg, with 77 finished and 39 begun; then the old Imperial Werft at Danzig, which manufactured 32 boats and had begun on 32 others; and last the shipyard of the Bremer Vulkan in Begesack, which built 4 U-boats and had begun on 20. Beside these firms several small firms had begun work on 41 submarines, the delivery of which was never made, as work on them was only started after the passing of the "Hindenburg program," and the submarines could not be finished before the end of the war.

GERMANY.

SUCCESSFUL EXPERIMENTS WITH COUNTER PROPELLERS.

January, 1923.

The counter propeller consists of a number of blades attached firmly to the rudder main piece. The diameter, pitch, and cross section of these blades are gauged in the same way as in the case of the rotary main propeller. The water coming from the main propeller is turned about in the form of a screw, through the action of the main propeller. The whirling energy contained in this stream of water is lost in ordinary screw propulsion, and the purpose of the counter propeller is to make this energy effective. The latter changes the direction of the water so that it again flows out straight to the rear and exerts a counter pressure against the blades of the counter propeller in the direction in which the ship is moving. Naturally this pressure is comparatively small in comparison with the stroke of the main propeller; however, it increases the total effect of the propeller to a great degree.

The first extensive trials were made by attaching a counter propeller to a large German torpedo boat destroyer. The increase in power amounted to 12 per cent, or about 2,000 horsepower to the machine efficiency, gained without the use of any additional fuel. Out of exaggerated consideration for backward motion, the counter propeller was so constructed that the full limit of power was not used. For this reason the retreating water streamed so strongly against the paddles of the counter propeller that in a short time a portion of the cross section had been worn away. These were then removed to prevent any interruption in operation. The experts viewed the idea very skeptically. Besides this wearing away of the blades, the fear was expressed that foreign bodies, such as cordage, ropes, etc., could get between the two propellers and, owing to the slight distance between the main and the counter propellers,

would damage the main propeller. However in spite of these objections, new experiments were carried out with a ship belonging to the United Elbe Shipping Co. and the results were very satisfactory. After the outbreak of the war the experiments were stopped until the spring of 1920, when the Chamber of Commerce of Lubeck had a canal tug equipped with a counter propeller, due to the results obtained in the tests on the Elbe. Since the propellers on hand were not especially good, an improved type was used; exact experiments showed an increase in efficiency of from 7 to 8 per cent for the new propeller. The counter propeller was then attached to the strenpost and there was, then, a further increase in efficiency amounting to about 15 per cent. At the same time the steamer *Andalusia* (700 horsepower; speed, 9 knots) of the Hamburg-American Line was fitted with a counter propeller, and a Norwegian company began tests and experiments with a number of freight steamers. The counter propellers used were most carefully worked out in a constructive way on the basis of the previous experiences; the pitches of the two propellers were brought to the proper relationship and the distance between the propellers was increased in order to reduce the disturbing effect of the water from the propeller and to prevent anydamage through the presence in this space of any foreign bodies. The steamer *Havmoy* (1,300 tons and 600 horsepower) attained in carefully worked out trials an efficiency of 17 to 18 per cent. By ordinary travel the saving in fuel amounted to 12 to 15 per cent. The freight ship *Granit* equipped with a Polar Diesel engine of 360 horsepower, attained a saving in fuel of 15 to 16 per cent. The passenger steamer *Brevik* was also fitted with counter propellers whereby it was enabled to carry on a regular service with two other faster ships—something that it previously had been unable to do. A number of trial trips were made with the steamer *Neptune* of 1,200 tons and 1,000 horsepower, first with the old propeller, then with a new propeller, and finally with the addition of a counter propeller. In a trip of 11 to 12 knots there was a difference of 6 to 8 per cent in the first two trials and in the third an increase of 11 to 16 per cent. In regular service there was a gain of one-half knot in speed with the same consumption of fuel, or a saving in fuel amounting to 12 to 15 per cent at the same speed. The freight steamers *Ottar* and *Erednes*, two sister ships of 2,300 tons and 500 horsepower, had a fuel saving of 10.7 per cent and the steamer *Eikland* a saving of 11.5 per cent.

The results attained in the case of the steamer *Andalusia* were gained during the course of an ordinary trip. Over an area of 8,600 miles, the coal consumption of two sister ships and the *Andalusia* was as follows:

	Tons.
Alesia, in 1,070 hours (with ordinary propeller)	590
Arabia, in 1,020 hours (with ordinary propeller)	558
Andalusia, in 975 hours (with counter propeller)	510

It can be seen from the above figures that the results gained in the course of an ordinary trip are dependent on a number of different elements. The first two ships, absolutely similar in every particular, show decided differences which are due to variations in coal, weather, and draft, but the results gained with the *Andalusia* are very much better, as her speed was 7 per cent higher and her fuel consumption 11 per cent less than the average results attained with the sister ships.

The former objections of the nautical experts have been removed by the above results. The Norwegian steamer *Granit* operated 12 months without difficulty. The steamer *Hamoy* operated uninterruptedly for 15 months. These ships, together with the steamer *Brevik*, made frequent trips through heavy ice. In so far as regards the operative certainty of the counter propeller, none of the ships had negative results with the exception of the *Andalusia*, which lost a portion of two counter blades. This had little effect on the action of the counter propeller; the speed remained the same although the two damaged blades were shortened about two-thirds of their entire length. In addition to the above-mentioned tests, the Hamburg Testing Station carried out careful tests in order to ascertain the proper diameter of the propeller; probably this can be much smaller than the diameter of the main propeller, which will reduce still further the danger of any interruption in operation.

In the case of some counter propellers it has been found that their addition considerably reduces the rolling of the ship, for instance in the case of the steamer *Neptun*. After the addition of a counter propeller the vibrations formerly felt in the salon of the ship were no longer evident.

In ships fitted with counter propellers backward motions is just as simple as in the case of normal ships; it has even been thought that there has been an improvement in this regard. It is well known that in moving straight ahead, in the case of normal ships, the effect of the propeller water turning to one side has to be counteracted by the rudder, whereas in the case of a counter propeller this is unnecessary, so that it is easier to hold to the course.

The counter propeller is constructed out of cast iron or steel and has six blades and is attached to the rudder main piece. The distance between main and secondary propeller amounts to about 300 to 450 millimeters; the counter propeller is purposely more lightly attached to the stem than is the main propeller, so that any foreign objects which might get into the propeller can break

the counter propeller and leave the main propeller undamaged. In the new ships part of the counter propeller can be cast in one piece with the main rudder piece; in the case of old ships a counter propeller can be attached in two to four days.

GREECE.

ARMY IN WESTERN THRACE.

February, 1923.

Reliable information is to the effect that the Greek forces in western Thrace have been recruited up to a strength of about 900 men per battalion, that their discipline has shown marked improvement, and that their morale is good.

The classes of 1920 and 1921 are clad in pretty ragged uniforms, but the classes of 1922 and 1923 are well clad, many of them in uniforms that were originally made for the British Army.

The troops are being trained both in close-order work and in battle training of all sorts. The state of their morale is very curious. They have unquestionably been told by their chiefs that they are going to be led against the Turks and into Constantinople, and they believe that an easy victory is before them. It is even reliably stated that all traces of the lowered morale which followed the Anatolian debacle have disappeared, the troops having now persuaded themselves that they were never defeated in Anatolia but merely retreated after going on a military strike.

It is not, of course, pretended that the discipline or spirit of the Greek troops is as yet comparable with that of a good western army, but it seems to be undeniable that progress has been made by them along these lines. Their abnormal morale, mentioned above, would probably lead, however, to very decisive reverses should they really advance against the Turks and meet stubborn resistance.

Troops have been moving eastward daily during the past month from the direction of Saloniki in Greece toward the eastern border of western Thrace. It is estimated that at the present time there are 100,000 fairly well-equipped Greek troops on a line between Karagatch and Dedeagatch. The railroads have given precedence to all military trains, and these trains continue to carry troops eastward.

Greek ships are unloading munitions at Dedeagatch and Cavalla. They have airplanes, but their number is not known. A considerable number of planes have been seen by Americans in shipment through Xanthi toward the eastern front. There is an aviation training camp at Saloniki, the head instructor being a British aviator. Material for pontoon bridges has been assembled at 15 different points along the Maritza River.

Greek officers state that they are only awaiting the word of the English to advance on Constantinople and estimate that they will meet no resistance between the Maritza and Tchaldja line, which distance they would hope to cover in seven days' time.

GREECE.

THE PART PLAYED BY THE NAVY IN THE REVOLUTION.

December, 1922.

The revolutionary movement was conceived and carried out by certain officers, for the most part Venizelists, under the influence of the catastrophe in Asia Minor, for the purpose of getting hold of those who in the army, in the Government, and in the entourage of King Constantine had been responsible for it. The royalist officers were rallied to this point of view by being shown the present isolation of the country in comparison with the support which had been given to it in the past, and the necessity of upsetting the present régime for the purpose of saving at least Thrace, since the fate of Asia Minor was already decided.

Colonel Plastiras (a Venizelist) during the retreat had particularly distinguished himself during those difficult times in rallying the disbanded troops; his name, which was repeated everywhere, was the only spark of energy left in the demoralized army; his prestige had become irresistible; and the energy which he displayed at Chios carried with him everyone with whom he came in contact.

At Athens the same desire of ending it once for all with those who had been responsible found an echo in certain officers of the naval aviation base. The movement commenced to spread and to organize itself—at Chios by Colonel Plastiras and at Mitylene by Colonel Gonatas, who, although a moderate royalist, joined with Plastiras, each gathering around himself a large group of young officers. The date for the proclamation of the movement was fixed for the night of the 23d–24th of September, but beforehand it was necessary to be assured of the indispensable cooperation of the navy, without which nothing was possible, since it was necessary to transport the troops to Athens in order there to impose the will of the revolution, and this transport could not be made without the complicity of the navy, which would be able to stop the convoys or simply retard them and permit time to pervert the sincere elan of the troops into a Bolshevik chaos.

The navy was in general very royalist; the high commanders were all royalist, having taken the places of Venizelists who had been placed on the inactive list. Among the junior officers there were some Venizelists. Among the petty officers from certain islands there

were a larger proportion of Venizelists. The sailors were for the most part royalists. The most fertile field for the revolutionary movement was among the young officers, who were more susceptible to the enthusiasm for adventures and having less to lose and perhaps more to gain in a revolution. Two superior officers appear to have played the principal rôle of leaders—Commander Petropoulakis, second in command of the *Lemnos*, and Commander D. Phocas, commander of the base at Chios. The first, who assured the adherence of the *Lemnos*, has since the events had a stroke and is in a bad state of health. The second is still a member of the revolutionary committee; he has a very active mind and was appointed by Admiral Dousmanis to the Ministry of War, where he put on a sound basis the "Naval review." It was also Admiral Dousmanis who later became a victim of the revolution to which he did not adhere, who sent Commander Phocas to the naval base at Chios as commandant, considering him to be the only one capable of establishing order in the embarkation of troops. The secret agreement was made between Chios and Mitylene and certain officers of the Navy. The movement was decided upon for the night of the 23d–24th of September. At Chios there were anchored the following men of war: *Lemnos*, carrying the flag of the Rear Admiral Kalamidas; destroyers, *Sphendoni*, *Nike*, *Thyella* (at sea); torpedo boats, *Doris* and *Dafni;* and the auxiliary cruiser *Naxos*. At Mitylene there was only the auxiliary criser *Adriantikos*. Almost all of the junior officers of the navy and all of the noncommissioned officers and sailors agreed to participate in the revolutionary movement for the good of the country, although very few of them were initiated into the movement at the beginning. Among the superior officers those most opposed to the movement were Rear Admirals Ipitis and Kalamidas (Admiral Kalamidas was a deputy from Chalkis), who were commanding, respectively, the first squadron of the fleet, with base at Constantinople, and the second squadron base, which had been at Smyrna but was now at Chicos; Captain Votzis, commander of the battleship *Lemnos;* Commander Stratos, commanding the destroyer *Sphendoni;* Commander Cavadias, commanding the destroyer *Thyella*.

Lieut. K. Skouphopolous, of the *Sphendoni*, was the first naval officer initiated into the movement, followed by Lieut. N. Vitalis, who was transferred from the *Lemnos* to the office of the captain of the port of Chios, in order to take care of the work of propaganda. Reserve Lieutenant Zissimos, of the auxiliary cruiser *Naxos*, took part in all of the preparations for the movement. Lieutenant Vitalis commenced the negotiations and assured the collaboration with the movement of the torpedo boats *Dafni* and *Doris*. Vitalis initiated into the movement a lieutenant from the battleship *Lemnos*, and, through

the latter as intermediary, Commander Petropoulakis. Immediately a number of other officers of the ship joined the movement. Two lieutenants refused to participate, but declared that they would not act against it. The "neophytes" of the battleship *Lemnos* promised the chief of the movement, Colonel Plastiras, that if the commander of the second squadron, Admiral Kalamidas, and the commander of the battleship *Lemnos* attempted to give warning of the movement they should be tied up by the officers and crew. The commander of the destroyer *Niki*, when sounded out by his friends, at once offered his ship to the revolution. Of the officers of the battleship *Kilkis*, which had been at Chios a few days before the movement, only one lieutenant had been instructed. That ship had departed for Mitylena and a little later left for Saloniki. Its departure from Chios contributed very much to the success of the movement. After several meetings of those initiated into the movement it was considered that the adherence of the mass of the fleet was very difficult, if not impossible. It was decided that the warships should be seized by officers from shore in cooperation with the neophytes.

Thus, according to decision, the revolutionary movement was declared in the army on the night of the 23d–24th of September at Chios and at the same time at Mitylene also. One after another the regiments decided to participate in the movement. The superior officers who refused or attempted to act against it were arrested and tied up.

On the night of the 23d–24th of September toward midnight 15 junior officers of the army and navy under the orders of Captain Papamantelos and of Lieutenant Scouphopoulos made a break on the destroyer *Sphendoni*. They arrested and tied the commander of the ship, Commander Stratos, and the second in command, whom they put ashore and sent to the revolutionary headquarters. The torpedo boat *Doris*, in which the officers and the crew had joined the movement and which was anchored alongside the *Sphendoni*, aided in seizing the ship. Several days before the movement Stratos had said: "I wish I had been on board the *Alphios* [an old gunboat] in order to sink Plastiras." During the transfer from Chesme and Smyrna to Chios of the regiment of Plastiras, the gunboat *Alphios*, acting on orders, had hindered the transport, which being ordered to go to Saloniki was turning in to Chios and had even fired several shots; but Plastiras braving all danger had passed beyond and it was thus that the transport had landed at Chios. The other officers and the crew of the *Sphendoni* at once joined the movement. The revolutionary officers of the navy on board the destroyer *Nike* arrested the commander of the destroyer, Captain Vriakos, who was traveling in civilian clothes. The ship was to have gone to Piræus; the commander of the ship interfered with that plan by arresting Vriakos, who was put ashore and sent to the revolutionary head-

quarters, where he declared to Plastiras that he would join the revolution. Some officers of the army and navy likewise took possession of the auxiliary cruiser *Naxos*. The commander of this ship, who refused to participate in the movement, was arrested, and a lieutenant took command of it. The commander of the torpedo boat *Doris*, who was one of the promoters of the movement, stood ready with his crew at their guns in order to give aid to the revolutionary officers while they were boarding the destroyer *Sphendoni* and the auxiliary cruiser *Naxos*. Of the ships anchored in the port of Chios there remained now only the question of getting possession of the battleship *Lemnos*.

About 60 officers of the army and navy, led by Commander Spyrakopoulos, after having seized the medical officers and the buildings at the end of the pier in accordance with an arrangement, went on board the tug *Hiraklis* and approached the *Lemnos* which was a short distance out. The destroyers *Sphendoni* and *Niki* and the torpedo boat *Doris*, which had adhered to the movement, stood by to assure the success of the *Lemnos*. The tug *Heraklis* went alongside the *Lemnos* at 3.30 in the morning; the 60 officers boarded the ship; 10 officers of the army led by Commander Spyracopoulos went without being seen to the cabin of Rear Admiral Kalamidas, commanding the squadron. They woke him up and declared that a military movement had broken out for the good of the country for the purpose of demanding the abdication of the King, punishment of those guilty for the defeat in Asia Minor, and to enable Greece to return to the Entente family. The Admiral was astonished and demanded that a delay be accorded him so that he could come to an understanding with the heads of the revolutionary movement. The officers, not wishing to grant him any delay, took him ashore to the revolutionary headquarters which had been established in the house of a tobacco merchant. At the same time another group arrested his aid-de-camp and the chief of staff, whom they also took to revolutionary headquarters. The commander of the *Lemnos* declared to the revolutionary officers that, although he agreed with the principles and ideas of the movement, he could not adhere to it as he had always been a faithful observer of discipline. Colonel Plastiras read to Admiral Kalamidas and the other officers the text of the appeal, which was as follows:

> Gentlemen, Greece is perishing. We invite you to come to her aid. If you are not in agreement with us, we will respect your opinions. We guarantee the security of your life and your military honor. You have nothing to fear. We only beg of you to follow us, for your ships belong to the country, and they will hasten the needed help.

The other officers of the *Lemnos* proclaimed on board the ship the national revolution, which the crew received with enthusiasm. Thus,

without bloodshed or incident of any sort the *Lemnos* passed into the hands of the revolutionary committee. Commander Petropoulakis took command of the ship as well as commanded the fleet. The crowning success of the occupation of the battleship *Lemnos* by the revolutionists was signaled from revolutionary headquarters, as had been agreed, by six flashes from the searchlight. The entire army received with enthusiasm and acclamations the adherence of the *Lemnos*. Thenceforward the success of the revolution was assured. A company of trusty Evsones from Plastiras' regiment was put on board the *Lemnos* in the morning as a guard. A little while after the seizure of the battleship *Lemnos* by the revolutionists the destroyer *Thyella* arrived in the port of Chios, returning from a patrol. Its commander, summoned on board the *Lemnos*, refused to declare himself in favor of the movement. A lieutenant received orders to take him ashore to the headquarters of Colonel Plastiras. Lieutenant Vitalis took command of the destroyer. In the morning of the 24th of September a section took possession of the office of the captain of the port, where was located the office of the naval base of Cihos. Order was given by the staff of the revolution to only surround it, but the soldiers did not entirely conform to the order. Captain Phocas addressed a patriotic speech to the noncommissioned officers and sailors who had been under his orders and who received the idea of joining the revolution with enthusiasm. All of the naval air service, for the most part Venizelists, at once joined the movement and contributed very much toward its success. Two aviation lieutenants had been among the first initiated. It was a naval airplane which made the flight from Mitylene to Constantinople in order to give to the officers of the cruiser *Averof*, which was anchored at Constantinople, a letter signed by Colonel Plastiras. The staff and crew of the *Averoff* had already been instructed of the movement, but the revolutionary committee believed that, on account of its national mission in the Bosphorus, it would be better for the *Averof* not to follow the rest of the fleet in its expedition toward Athens. At Chios a clash was reported between the revolutionists and the army. One major was killed and two soldiers and a sailor wounded.

Almost at the same hour a dozen officers of the Army took possession of the auxiliary cruiser *Adriatikos* in the port of Mitylene. Its captain, who refused to join the movement, was arrested and taken ashore.

On the morning of the 24th of September Rear Admiral Kalamidas and Captain Votzis, prisoners of the revolution, were invited to participate in the movement but refused. At noon they changed their minds and declared that they wished to join it. Colonel Plastiras, however, refused to accept them. In the afternoon Commander Theophanidas came to Plastiras and with tears in his eyes begged

to be enrolled in the movement. Plastiras hesitated to accept him, but Commander Phocas, who was one of the promoters of the movement, persuaded Plastiras to admit him.

At that moment the following vessels of the fleet had not yet adhered to the movement: The armored cruiser *Averof*, in the Sea of Marmora, whose cooperation was, however, certain and whose crew was for the most part Venizelist; the battleship *Kilkis*, in the waters of Saloniki; the cruiser *Helli*, on patrol; and the remainder of the destroyers and torpedo boats.

On orders from the revolutionary committee all the ships of the fleet which had adhered to the movement interrupted all communication by wireless with the Ministry of Marine. Chios and Mitylene ceased to communicate with the rest of Greece.

The movement had in part succeeded. The revolutionary committee decided that it should, without delay, impose its will on the King and on the Government of Athens. The army, aided by the fleet, was to occupy the capital. About noon on the 24th of September the soldiers of the First, Fifth, Seventh, and Thirteenth Divisions, which were at Chios, were embarked on 11 transports. At the same time the soldiers of the Second Division were embarked on three transports at Mitylene. The embarkation of the soldiers having been accomplished, the transports left Chios amidst the enthusiastic acclamations from the army and the crews. They were escorted by the following: Battleship *Lemnos*, in command of Commander Arvanitis; the destroyer *Niki*, commanded by Lieutenant Voutsaras; *Sphendoni*, commanded by Lieutenant Skouphopoulos; *Thyella*, commanded by Lieutenant Vitalis; torpedo boat *Doris*, commanded by Lieutenant Zangas. Some colliers and water boats also accompanied the convoy. The revolutionary committee, with Colonel Plastiras as representative of the army and Commander Phocas representing the navy, embarked on board the *Lemnos*. In the waters of Tinos the commander of the fleet, Commander Petropoulakis, was taken ill, becoming mentally deranged and appearing to regret his participation in the movement. He was replaced by Commander Phocas. In the night of the 25th–26th of September the revolutionary committee decided upon the naval action. The destroyers were to take Piræus and the arsenal in order to cause the other ships of the fleet to join the movement. Lieutenant Skouphopoulos, on board the destroyer *Sphendoni*, and Lieutenant Vitalis, with the destroyer *Thyella*, were designated to carry out the movement. They took with them a lieutenant from the *Lemnos* and several officers from the army. On the 26th of September the convoy coming from Chios met in the seas of Tinos the

three transports coming from Mitylene under the orders of Colonel Gonatas, who was transferred from the *Elstratios* to the *Lemnos*.

Colonel Gonatas, being the senior officer present, took command of the army and the revolution. Colonel Plastiras, chief of the army from Chios, was named deputy chief. It was decided to constitute a revolutionary committee of 12 members, of whom 11 were to be officers of the army and 1 from the navy, Captain Phocas. An executive committee was constituted, consisting of Gonatas, representing the army of Mitylene; Plastiras, representing the army of Chios; and Phocas, of the navy. It was this committee which signed the ultimatum sent to the Greek Government and negotiated the execution of the conditions imposed by it. After the fleet had joined they all proceeded toward the coast of Attica. On approaching Attica the *Lemnos* and other ships were informed by wireless that the destroyer *Aspis* had adhered to the movement and that the revolution had broken out in the arsenal. The torpedo boats *Aigli* and *Alkyon* had joined the movement. The following is the account of the adhesion of the destroyer and the two torpedo boats: In the night of the 26th–27th of September Lieutenant Dimakis left the destroyer *Sphendoni*, which had been detached from the fleet for the purposes mentioned above, and landed in civilian clothes on the peninsula of Piræus. He there met Lieutenant Lascos, who was taking the place of the commander of the destroyer *Aspis*, and whom he initiated into the movement. A little later the crew agreed, and the *Aspis* left the port en route for Laurium to join the revolutionists. These two officers succeeded in causing the two torpedo boats *Alkyon* and *Aigli*, which were anchored at the arsenal, to join the movement.

On the morning of the 26th of September two naval airplanes coming from Chios flew over Athens, Larissa, and Saloniki, distributing thousands of copies of the manifesto. This manifesto contained the conditions of the revolution, namely, the abdication of the King, resignation of the cabinet, dissolution of the National Assembly, and the assumption of legislative and executive power by the revolutionary committee. In the night of the 26th of September the revolutionary committee on board the battleship *Lemnos* transmitted an ultimatum to the Government, demanding of it the complete and immediate acceptance of those conditions. On the morning of the 27th the army commenced to disembark. The plan of debarkation of the troops designated for the occupation of Athens was as follows: The Seventh Division, which was on board the steamers *Alexandra*, *Dafni*, *Antigoni*, and *Togias*, disembarked in the bays of Porto Rafti and Raphina. Its objective was to menace Athens by the east and north in occupying the important positions on the gen-

eral line of the Pass Stavrou-Amaroussiou. Debarkation was effected at Porto Rafti on five barges and the tug *Elsi*, sent for that purpose. At Raphina the *Togias* was able to go alongside the landing. Special orders were given that the steamers on which had been the Seventh Division were detached from the fleet and anchored in the Bay of Macronissi.

The First Division on board the *Andros* and *Chios* (Palios Company) disembarked at Laurium and was to join as soon as possible the Seventh Division. The other group of steamers with the Eleventh Division, on board the *Patris*, the *Michalinou*, the *Efstratios*, and the *Ionnis;* the Thirteenth Division, on board the *Odyseos;* the Fifth Division, on board the *Chios* (Chiaki Company); the Second Company of Telegraphers and the Second Company of Pioneers, on board the *Paros;* 2 field guns with 4 caissons and 40 autotrucks, on board the *Eon*, continued their way toward Phaleron, where they disembarked according to program.

On the night of the 26th–27th of September, General Papoulas, accompanied by Commander Economou, representing the Government, met the revolutionary committee on board the *Lemnos* for the purpose of discussing the conditions of the ultimatum. The revolutionists refused to discuss conditions and renewed by wireless the demand on the Government, giving a delay of three hours for its acceptance. On the morning of the 27th the conditions were accepted, and the King abdicated in favor of his son George. The revolutionists demanded that the King and members of the royal family, with the exception of Prince Paul, who was considered as the heir apparent, leave Greece as soon as possible.

The officers, noncommissioned officers, and sailors who were anti-Venizelists had, after the night of the 24th of September, agreed to participate in the movement, but on the express condition—and which was agreed to by the leaders of the revolution and Plastiras in particular—that the life of the King and the royal family should undergo no danger, promising also that they would endeavor to persuade their partisans in Athens and all over Greece that no resistance in favor of the King would be offered and thus avoid bloodshed and civil war. The Government having accepted the demands of the revolutionists, particularly the abdication of the King, the revolutionary committee sent out by wireless invitations to the other ships of the fleet and branches of the navy to submit to the revolution. The battleship *Kilkis* and the cruiser *Helli* had received orders from the Government to proceed to Phaleron, probably for the purpose of resisting the revolutionists. On receipt of the news of the abdication of the King and the success of the movement, they accepted. The cruiser *Helli*, which was on the sea on patrol, declared itself in favor of the movement. The junior officers and noncom-

missioned officers and sailors arrested the commanding officer, who refused to join, and placed him in confinement.

On the morning of the 27th of September a meeting was held on the *Averof*. The officers declared for the revolution. Rear Admiral Ipitis, commander of the first squadron, was absent, having gone ashore at Constantinople the day before. Lieutenant Baltazzi, nephew of the ex-Minister of Foreign Affairs, and Lieut. G. Constantinidis, aid-de-camp of the admiral, were the promoters of the movement. The other officers of the ship joined the movement, with the exception of the captain, the chief of staff, and a commander. These officers were confined in their apartments. All of the crew of the *Averof* having joined the movement, the ship prepared to get under way for Phaleron for the purpose of going to the aid of the fleet and the army. At the moment that the *Averof* was turning to leave the Bosphorus Admiral Ipitis arrived on a tender from the naval base. The officers announced to him that a change had taken place in the command and that he was forbidden to come on board. An exposé of the events which had taken place was put in a bottle and thrown over to the admiral so that he could inform himself. In reply to a wireless message from the battleship *Lemnos*, which was anchored at Phaleron, the *Averof* sent out the following radiogram:

BATTLESHIP "AVEROF."

To all ships and stations:

The entire Greek fleet has unanimously risen up and has ranged itself on the side of those who are working for the national recovery. The *Averof,* which has proudly mounted guard in the Propontis, is now sailing on to Phaleron in order to contribute also in imposing the latest decisions taken in favor of our country which is in danger. It sends without distinction greetings to all comrades of the land and sea.

In the afternoon of the 27th the *Averof* stopped along the coast of Thrace near Rodosto, and there put ashore its ex-commander who would not adhere to the movement, but retained the other prisoners. In the waters of Thrace the *Averof* met the auxiliary cruiser *Aegean*, which unanimously joined the movement. The *Averof* in its route to Phaleron was escorted by the destroyer *Aetos*, the auxiliary cruiser *Myconos*, which had joined the movement, together with several small boats. The *Averof* arrived at Phaleron after the movement had been imposed on the Government of Athens and its demands accepted.

The commander of the defense of the Gulf of Saronicos and of the base of Piræus, who was on board the old battleship *Psarra*, which was anchored in Piræus, together with all of the officers, noncommissioned officers, and sailors belonging to his service, joined the movement after the ultimatum had been delivered to the Government.

In the afternoon of the 27th, when the Venizelist officers who had been placed in retreat by the royalist régime were seizing the various ministries and public services, the officers of the navy went to the Ministry of Marine and took possession of it. It is understood that the revolutionary movement caused the British naval mission a great deal of anxiety, in that they feared a bombardment of the city in case of resistance.

Thus it was that the fleet was able to impose on the Government of Athens the revolutionary movement which had broken out at Mitylene and Chios and obtain the abdication of the King.

Several days later the revolutionary committee of 12 members, as well as the executive committee, was dissolved and replaced by a revolutionary committee of five members. This committee decided to remain at its post until after elections for the purpose of watching over the faithful application of the program of the revolution. On the new commission there were five representatives: From the army, Colonels Gonatas, president; Plastiras; and Sakellopopoulos. The navy had two members, Captain Hadjikyriakos and Commander Phocas. Captain Hadjikyriakos, who was a too ardent Venizelist, was withdrawn from the revolutionary committee following a petition signed by 70 officers, who demanded his withdrawal. The present representative of the navy on the revolutionary committee is Captain Phocas.

HONDURAS.

ARMY ORGANIZATION AND EQUIPMENT.

February, 1923.

The army of Honduras at the present time is composed almost entirely of volunteers, and these men are mostly Nicaraguans and Salvadoreans. The drafting of men for service was given up in July, 1922, the Government being so unpopular that drafted men deserted immediately and the army practically disappeared. A great many of the higher generals and colonels are Nicaraguans.

Until September, 1922, battalions were at approximately war strength—that is, 500 men each, but they are now being demobilized, and most battalions are already down to about 250 men, which is as many as can be maintained in time of peace.

The organization of the army of Honduras provides for companies, battalions, brigades, and divisions of infantry. The artillery has regimental organization, composed of batteries, but not battalions.

The division, which exists purely on paper, has a prescribed strength of 5,000 men. It is divided into two brigades of 2,500 men each. Most brigades are composed of five battalions of 500 men each,

but brigades in which is included artillery have four battalions of infantry and a regiment of artillery. Battalions are composed of four companies.

The rifles issued to the soldiers are Mausers, model 1908, of 7-mm. caliber, and the Mannlicher, caliber 11 mm., and the Remington single-shot, caliber 11 mm. and 7 mm., the last, model 1888, being the most used. The rifles are mostly very bad and extremely nondescript. Little care is given by the soldiers to their pieces.

The uniform, including a cap, consists of unmilitary appearing two-piece outfits made of overall material. The trousers usually bear a white or red stripe down the sides. Few of the soldiers wear shoes, though a considerable number wear crude sandals.

In ordinary times the army of Honduras is distributed for pure territorial reasons. That is, the troops are put in places where the best housing facilities are available.

RUMANIA.

MILITARY SITUATION.

January, 1923.

A crown council has been meeting, going over a new project for a total reorganization of the Rumanian Army. Army reorganization seems to be chronic with Rumania. Every new government that comes in immediately starts to reorganize; they form committees, crown councils, and meetings and draw up the most hard-and-fast rules of reorganization, but as soon as the financial end of it appears usually the reorganization plans are dropped and one finds the army exactly as it was before.

It is interesting to note that within their proposed reorganization the strength is to be reduced to 120,000 and they claim at present they only have 170,000. As a matter of fact there are at present approximately 190,000 men under arms.

RUSSIA.

PARADE OF THE FIFTY-FIRST DIVISION AT ODESSA.

The following observations were made at a parade of the Fifty-first Division of the red army at Odessa, Russia, last autumn:

Something over 2,000 troops were inspected and in line. Of these about 200 were what is known as militia, or armed civil police; about 250 cadets of the local school; about 100 were workers militia; about 100 cavalry; and the rest about 14 companies of the Fifty-first Division of the red army. There were also miscellaneous detachments

of Siberian Sharpshooters, troops from the Rumanian border, special companies, etc. About 25 children in new Trotzky helmets, said to be children of the division, and fed by the A. R. A. were at the end of the column and were the only detachment really cheered by the spectators.

Before and during the review two fighting planes and three flying boats flew overhead, two of the boats flying very low. I noticed an unevenness and roughness in the motors of two of the planes and from what I had heard about them rather expected an accident. Finally one flying boat, the motor of which had seemed particularly good, and which had been newly painted, flew low over the parade ground. Just as it was passing me, about 100 feet off the ground, I saw the entering edge of the wing covering give way, the fabric on top streaming back. The plane immediately went out of control, but was evidently directed with the pilots last effort, assisted by the drag of the stripped wing, into the one place on the field where it could fall without hitting troops or houses. The resultant crash accomplished the complete demolition of the plane, the death of the pilot, the mechanic, the observer, who was the chief of the naval aviation for the district, and two spectators. The plane was so completely destroyed that it appeared nothing more than a pile of dust and fragments. Fire started, which resulted in bringing out, in about 20 minutes, a very flashy fire department, the horses of which were the only well-kept animals I have seen in Odessa. Only a slight delay was caused by the incident, which appeared to have little effect on the review or the spectators.

The commanding general of the district proceeded to inspect the troops, all of whom he greeted with a salute and "Good morning, Comrades," answered by the troops with a concerted "Good morning, Comrade," or in some cases with a sort of "Hurrah." Each band played a march. The general was a tremendous man in the early thirties, with a blond beard. He looked intelligent, as did some of his staff. He wore two red army decorations and is said by Kosura, the commisar of foreign affairs at Odessa, and himself a former commander of a division, to be a very able man. I was unable to remember his name, or in fact to get a clear pronunciation of it.

After the review was completed the troops were marched into a close square to listen to speeches. The movements were not well executed, and apparently none of the elements were well drilled, but on the whole the work was better than would be expected.

Speeches by generals, committeemen, and commissars followed, the various arms of the service being represented by their officers, who appeared very much as one would expect officers to appear in any second-class military organization. There was a good deal of promising and praise of one another and of the soviet, some

of which was translated roughly for me. My thought of this was that they were trying very hard to impress themselves and were not succeeding overly well.

The last speech was by "one of the soldiers," a boy who was not much over 20, and very unintelligent looking, but who had apparently been well coached. He knew his lines too well to have spoken as long and continuously as he did without instruction.

The "International" was played after each speech, and everyone ended his speech with a "Rah" which was answered by a "Rah" from the troops. The best speech was by a sailor who hadn't the brains or the education to learn or say much, and consequently only said about 10 words. Medals were then distributed to four heroes of the Wrangel campaign.

The march by was then held, the Fifty-first Division leading. They looked well uniformed in khaki blouses, with three bars of black or red to designate their branch of the service, across the chest (an excellent mark at close quarters), heavy shoes, generally appearing too large and shapeless; wrap puttees, and new khaki Trotski helmets. Most of the uniforms appeared new. The rifles generally appeared good, the bluing still being new on those carried by the Fifty-first Division, gunstocks were unoiled; bayonets, where fixed, were of long triangular rapier type and generally rusty, but apparently oiled. The irregular troops did not seem so well equipped. Even in the regular troops occasionally one saw a man out of full uniform in the ranks, and at first glance I thought the footgear varied. This I found was due to the wearing of knee boots by the officers.

The morale generally appeared to be higher than I had expected to find it, but there was no spontaneity to any of the cheers which were given in answer to the greeting of the general, who as each detachment approached would say "Welcome ——— Battalion or Company, Rah." This was answered by a "Rah" from the troops. There were, however, scattered here and there through the troops, soldiers who were most enthusiastic in their cheers.

Most of the soldiers were mere boys who looked rather more scared than one would expect Trotski's red soldiers to look. Officers were apparently quite proud of their command, and their saluting walk is such a strut as a wooden soldier would execute. The soldiers carried no equipment other than rifle and cartridge box, nor was any artillery present.

I imagine that these soldiers are about the same as we would find in a rather neglected militia troop in the United States.

There were few spectators outside soviet officialdom at the parade, not more than 2,000 or 3,000, and they showed interest but little enthusiasm.

Upon completion of the parade all organizations marched down the street and dispersed.

Officers visiting the parade remarked on the lack of knowledge concerning the event that they had encountered in trying to find their way to the drill ground.

The communist commissar drew my attention to one particularly snappy-looking company of the Fifty-first Division which he described as "The best company in the division, 60 per cent of them are communists."

According to the statement of this man and the chief of the Foreign Office, a new commander "fresh from the staff college" has reported to take over command of the Fifty-first Division. He is young and capable looking.

Most of the officers were said to be loyal supporters of the Soviet Government, who had been trained for the job at schools after having been picked from the best and most loyal soldiers. They had replaced all the old army officers who were formerly retained for their knowledge but have now "been dispensed with."

RUSSIA.

AIM OF THE SOVIET LEADER WITH REGARD TO THE UNITED STATES.

January, 1923.

Note: Received from Dependable Russian Sources.

To get a clear understanding of the Bolshevik's policy as regards America it is necessary to explain the very essence of communism. Communism can not be called even a deformed state policy. It is an antistate movement, aiming not to strengthen the state organism but to wreck the very foundations of state construction and thus realize the chief and basic point of their program—the triumph of the world socialist *proletarian* revolution.

The Bolsheviks—that is, communists—succeeded in 1917 in seizing the power in Russia by throwing into the army and into the mass of the workmen, already shaken by the socialist propaganda of the "temporary government," their communist calls of "Down with the war," "Peace to the hut and war to the palace," "Rob the robbers," which found such good soil in the mass of the population already tired of the war.

It is not astonishing that the lower classes of the country gathered around this international and communist government, which told the peasants that private property on land was abolished and that they could take all they desired.

A communistic international was at once called together at Moscow (the Comintern), having members from all the countries in the world, which issued a proclamation to the "proletariat of all countries," calling them to "destroy the bourgeois governments and to seize the power themselves in the name of the world proletarian revolution."

From the moment the Bolsheviks came into power in Russia they began to destroy the "intellegenzia" and bourgeois elements as not being of "proletarian extraction." When the Creka was formed in Moscow Lenin and Trotski gave the following instruction: "Kill, not inquiring into the guilt of those arrested, but asking only their extraction; if the arrested are not of proletarian extraction, they must be killed, as they are against the world revolution."

In the communist government there were no Russians except Lenin and Tchicherin. The rest were all Jews under Russian names: Trotski, Bronstein; Radeck, Tobelson; Sinoviev, Apfelbaum; Kamenef, Rosenfeld; Katkov, Katz; Bokelnikev, Brilliant; Litvinov, Vallach; Martov, Tzederbaum, etc. (all Jews).

Instead of a national Russian Government there appeared an international government consisting of Jews. Jews also occupied all the important posts in the country.

Having seized the power in Russia, in spite of the civil war which had already begun, the Bolsheviks organized a most intense propaganda of communist ideas in the countries of western Europe. The defeat of Germany and Austria gave good opportunities for communism in these countries, as the population was dissatisfied with the Government which had lost the war. The result was a communist revolution in Bavaria and Hungary. The power, as in Russia, was seized by internationalist Jews, who declared Bavaria and Hungary to be "Socialist soviet republics."

The same mass killing of the bourgeoisis, educated classes, and officers began as in Russia, but patriotic feeling soon took the upper hand, the communist yoke was thrown off and there was a return to a normal form of government.

This did not take place in Russia partly through the low cultural level of the people, partly through the faults of the leaders of the white movement, and chiefly because the lower classes who had joined the communists had the possibility of living very well on the remains of the great wealth of former Russia.

In spite of the failure of communism in Bavaria and Hungary, the Bolsheviks did not cease their propaganda, but on the contrary increased it in western Europe, using a great part of the Russian State gold fund for this work.

It must be granted that, although much time will pass before the world revolution breaks out, the Bolsheviks have done much in this direction. The British Labor Party was formed by the aid of their money and propaganda. This party has the same program as the Comintern and can bring pressure to bear on the Government by threatening strikes and terror. In Germany the Bolsheviks have organized a really strong communist party, numbering more than 300,000 members, and which will be able at the order of Moscow or the Comintern, if not to cause a socialist revolution, at least to destroy German industry, begin a civil war, and in general (if only temporarily) turn the state to chaos.

In the Balkan States, except Yugoslavia (whose Government is leading a strong war against communism and where the party is not legalized), the communist propaganda is beginning to be felt. The number of communists in Czechoslovakia reaches 200,000 and the communist party in Parliament influences the Government. In Bulgaria the Government has for some time been under the influence of the Bolsheviks, and is in direct and close contact with Moscow, to which it is bound by several secret agreements. In Rumania there is a strong communist movement, and the communists are carrying on the strongest propaganda. In Italy where a communist revolution was expected every day, the country has been temporarily saved by the Fascisti. In the first days of this movement the communists stopped their work, but now, supported by the gold of the Moscow Comintern, they are again beginning their work, especially in the large industrial centers of Italy.

Communism is weakest of all in France, where the nation is still hypnotized by their victory over the Germans, and where the workmen are too few in number to be able to rise against the enormous army which France now has.

Besides, the workmen of Europe have, in one way and another, come to know of the actual condition of workmen and peasants in Russia, and do not entirely believe the communist agents who tell them that Russia is a "paradise for the workmen and peasants."

Although western Europe has been shaken by communist propaganda it is still far from a revolution, and the communists are continuing their propaganda chiefly with the desire of bringing about communism in America, and especially in the United States.

The reason for this is the following:

In the years 1918, 1919, and 1920, and in 1921, the Bolsheviks depended upon a revolution in western Europe as a means of strengthening themselves in Russia, which had already been ruined by them. If at that time a communist revolution had taken place in Germany or England, countries with a strongly developed industry, the Bolsheviks would have been able to use these countries for

the needs of "Communist Russia." They know that they can only keep in power as long as they can show the people the fruits of their communist victories in other countries, and let the population profit. They know that they must repair the Russia they have ruined with the aid of foreign industry, finances, and qualified workmen. All this help they want to receive free, without giving anything in exchange. This could only be if Germany and England had communist governments.

But in five years of their government in Russia they have brought the country to such a state of ruin that even western Europe's industry and finance can be of no help. Further ruin endangers the very existence of the communist government, as at some time the cup of patience of the nation may overflow.

The true position of national economy in Russia may be seen from the report made in Moscow at the business club by one of the important communist workers, January, 1923, as follows:

The process of exhaustion of means of production is continuing in industry as well as transport. The number of unemployed is also increasing. A special decrease is noticeable in the heavy industry and produce of fuel of all kinds. The number of good cars, sleepers, and rails is also growing less. Trade is decreasing. To conclude, there is now going on a system of dissipation and waste in all things.

The wages of workmen in the Republic constitute 30 per cent of pre-war wages. There is a crisis of raw material. The supply of cotton has decreased; of flax and hemp there is also little left. The supply of cast iron on January 1, 1921, was 22,000,000 poods and on April 1, 1922, 8,000,000 poods. There is only 30,000,000 poods of naphtha.

The number of railway workmen has decreased 1,220,000 men (January, 1920) to 906,000 men (April, 1921) and to 750,000 men by October 1, 1922.

The number of engines in working order in January, 1923, was 7,500.

There is a considerable decrease of the cultivated area, of cattle, etc.

The buying capacity of the population as well as consumption has decreased by 60 per cent. This process of exhaustion will continue; the stabilization of the rouble is impossible.

The Bolsheviks understand very well that they can only be saved in this critical situation by a great country with strongly developed industry, such as America, coming to their aid gratuitously and on a large scale. This they know is only possible after a proletarian revolution will be effected in America and a communistic government established.

This is the reason why the Bolsheviks have set themselves the task of causing a revolution in America as soon as possible, as in their present situation Europe is not in a position to help them.

To this end they have organized special groups of propaganda agents for America and in various ways have collected large sums of money for American propaganda.

As far back as 1918 Lenin had said that the hardest fight for communism would be in America, where the bourgeois classes are strongly organized. He said that several years would be necessary in which to prepare for this struggle. Special agents must be educated and all necessary preparations made before the propaganda among American workmen can be started.

In 1918 the Comintern in Moscow organized an "Academy of Communist Propaganda" for communist youth. The pupils were mostly Jews. In this academy were taught not only the practical methods of propaganda, but also foreign languages, which the pupils had to master to perfection. There were different sections—French, Italian, English, and eastern countries and a special American section. The course in this academy was of four or five years.

The first group finished the academy at the end of the year 1922, and the Moscow Comintern drew up a scheme for the attack of communism against the American bourgeoisie and capital. The Comintern finds that the unorganized system of propaganda in America before the year 1922 cost large amounts of money and gave no results, owing to the absence of a comprehensive system and plan.

The Comintern considers that there is no use for communist propaganda in the United States Army as their educational level is too high, and besides, were a revolutionary movement to be started by the workmen, the Army would be too small to oppose it. The same may be said of the Navy. Propaganda in the Army and Navy must continue but it can not be expected to give any results.

The force of propaganda must be centered in the working classes, which as a strong corporation in an industrial country, if organized and inspired by communistic ideas, can easily effect a revolution.

The committee of propaganda of the Comintern elaborated the following instructions for the agents being sent to America.

1. The agents must get to the United States as workmen and emigrants with Russian or foreign passports, and, owing to their knowledge of the English language, will easily be able to introduce themselves into the midst of the workmen.

2. Provided with large funds, they must explain to the workmen that they are Russian emigrants who have left Russia as owing to the great wars their economic position has got worse. They came to America, having heard that workmen's position there was very good, but now they see that they are rich men beside the workmen of capitalistic America.

3. Displaying the large sums, as they say, earned in communistic Russia, the agents involve the workmen in talk concerning the position of workmen in Russia.

4. They prove that the communistic revolution caused them to grow rich, as it gave into their hands the factories, works, trade,

industry, and transport, which they had seized from the bourgeoisie, the eternal foes of the proletariat.

5. The agents then explain to the workmen that they can do the same by overthrowing the bourgeois-capitalist government of their country. This can be brought about by strikes, demands for increase of salary, and the nationalization of different branches of industry, demonds for the recognition of the Soviet Government, and for placing their own representatives in Congress.

This propaganda gives most result among those occupied by physical labor, and the greatest inducement is generally the display of large sums of money which prove the truth of the Bolshevik agent's words.

By the side of this ordinary propaganda a more subtle one is carried on among the unions and workmen's organizations. In many cases bribes are given to some of the members, who are at the same time enrolled in the ranks of the communist party.

In December, 1922, at a meeting of the comintern, the American delegates of the Communist Party, after giving their report, asked for the hastening of the communist revolution in America. The negro delegates declared that in the case of a communist revolution the negroes of North America would rise as one man against their white oppressors.

As a result of this report the Comintern passed a resolution to hasten the revolution in America and allowed a large sum of money in gold and English and American currency to that effect.

After this secret meeting Trotski declared in the war commissariat:

> The chief aim of the international and of the R. S. F. R. is the bringing to our side of the American war working masses. If the soviets do not succeed, European revolution will be delayed for many years *and we can only wait months.*
>
> But American bourgeoise will fall into our hands, and the stronger are the soviets the sooner will come the hour of our revenge.

From the reports of the same secret meeting of the Comintern concerning revolution in America it appears that communist propaganda in America and the organization of armed communist bands of American workmen and foreign elements will be easy of execution, as the capitalistic-bourgeois government does not understand the methods of propaganda and the mode of action and therefore is absolutely unable to oppose them.

Besides, the Comintern and the R. S. F. S. R. government do not conceal the fact that for the success of communism in America they have a mighty ally in Japan, who at the moment when America will be in throes of civil war and important disturbances will attack her and thus help to firmly establish communism.

Counting in a great measure on Japan to help them in their struggle against America, the Comintern and the government of the R. S. F. S. R. have now decided to mobilize all their forces to cause as fast as possible a communist revolution in America, to establish there a communist government, and to enter into possession of American industry and technical forces, thus being able for many years to enforce their rule not only in Russia but in all the countries of the world inhabited by the white race.

RUSSIA.

ARMY DEMORALIZATION.

February, 1923.

For the last 10 months the fighting value of the soviet army has been gradually declining. Food difficulties and the transportation crisis have compelled the Soviet Government to regroup and partially dismiss five armies; 30 per cent of the men have been sent back and no new enlistments have taken place, excepting in the Caucasian Army. The European missions at present in Moscow sent information a few days ago that the forces at present amount to a maximum of 500,000 men. The material is very poor, artillery and engineer equipment being only sufficient for 12 divisions of 15,000 men each. The quartermaster corps seems to be absolutely nonexistent.

The spirit of the troops, which has been kept to a certain standard so long as military life was more easy and enjoyable than civilian life, has now greatly deteriorated and evidences of apathy, despondency, and general unconcern as to the future are distinctly noticeable.

Some of the army staffs, especially of the Fourth and Fifth Armies (southwestern and southeastern groups), which are composed of former Russian officers of the Imperial Corps, as well as German officers, are still very good.

From reliable information lately received it is considered that the present armies can only be efficient for policing operations, but would be totally incapable of showing any great resistance against western armies, even of very inferior numerical strength. The Moscow Government, knowing these facts, is trying by every means to show its peaceable disposition and to start a propaganda for general disarmament. Negotiations that the soviets were conducting with the Prague Government on this subject have completely failed and as a result considerable depression is noticeable in Moscow.

Germany has succeeded in starting a Russian factory lately to manufacture bombing planes, according to plans drawn up by the

Dutch designer Fokker. The French, in agreement with the British, have taken steps to nullify the value of this organization.

The French Government has decided to send a permanent member of the Chamber of Deputies to Russia on a special mission for the purpose of endeavoring to reestablish diplomatic relations. Some difficulties have arisen as to the choice of the actual representative, but as soon as this is settled the representative will leave.

RUSSIA.

ATTEMPTS BY REDS IN ODESSA TO INFLUENCE ENLISTED MEN OF DESTROYERS.

The source of this information, a popular petty officer of this ship, is level headed, of common sense, and is extremely trustworthy. I consider him as an excellent source of such information as is generally beyond the reach of officers.

The information which he has found in Odessa indicates a condition of terrorism which I had generally believed to be passing but which is actually very much in evidence except to officers.

He states that in his presence a red official, he thought a soldier, walked into the "American bar" in Odessa, demanded to see the till, and after looking things over generally, helped himself to the money in the till. Nothing whatever was said to him. That another time he went to a café, where no liquor was supposed to be served, with one of these men, who demanded and received several bottles of liquor of different kinds, took a drink from each and left without any discussion as to payment, telling informant that he did not need money as long as he was a Red and had a gun. The proprietor told informant that if he interfered he most certainly would be shot or at the very least arrested. These are two specific instances of a very general practice of attempting to show American enlisted men what the Bolsheviki consider the advantages of Bolshevism which would most appeal to the man.

The Bolsheviki liked to talk to and associate with our men, and when a real communist was present always talked about how fine the government was, but frequently the same men, when there was no communist present, talked in exactly the reverse way. Many talked of saving money in hopes of getting to America.

Informant met a red soldier in a rather unsavory street one day, who asked him if he had any money. Fearing an attempted robbery informant answered that he had not. The red then asked if he did not want a woman. He answered that he did not. The red then suggested a drink which he accepted. The red said "You no money, I no money, but I can get." In going down the street the red stopped several times women apparently respectable and

asked informant if he did not want them. He refused and the red, who "talked a little English," explained that he did not need any money; that all he needed was the communist backing of a red soldier to take any woman he desired, and that if he, informant, was a red he could do as he pleased in Odessa. They then went into several places and had drinks for which nothing was paid, the red again explaining that no money was needed. The man becoming quite drunk, informant left him.

He met an artillery officer of the red army, who when he found that our man was a gunner's mate became quite interested and discussed his own job and pay, suggesting that if informant would desert he could get into the red army. The red stated that the army had plenty of guns but no one experienced in working on them and that when the guns were put out of commission the red artillerymen could not repair them, and that should he accept the chance there was a very good opportunity for him in the red army.

From various other sources I found that there was a great deal of this type of propaganda going on among all of our men at all times, particularly among the petty officers and artificers.

RUSSIA.

REVIEW OF RELATIONS WITH TURKEY AND RUMANIA.

February, 1923.

1. The following is a review of the political relations between the Bolshevik Government of Moscow and the Turkish Government of Angora, obtained from a dependable Russian source:

Political and military relations between the Angora Government and the Moscow Government were established after the defeat of the army of General Denikin in March, 1920.

At that time the Bolsheviks were threatened by two new military factors: (1) The reorganized remains of the army of General Denikin under the command of General Wrangel, and (2) the regular Polish Army under the command of General Pilsudski, who wished to increase Polish territory by taking advantage of the civil war in Russia.

The Bolsheviks, pressed from two sides, surrounded on all sides by enemies, began to look for support, even if only moral, from outside.

The only allies they found acceptable were the Angora Kemalists who, being also isolated from their neighbors and supported by no one, agreed to enter into an alliance with the Bolsheviks, notwithstanding the difference in the views and aims of both parties, one of whom was striving for a world revolution and the other for the union of the Moslem world.

This alliance with the Angora Government gave the Bolsheviks the possibility in case of defeat of the red army by Poland or General Wrangel, to retire to Anatolia and from there continue their world propaganda of communism.

To the Kemalists this alliance with the Bolsheviks gave the necessary means for their struggle with the Greeks in the shape of gold and armament. Later they were supplied with these materials by the Bolsheviks in profusion.

At the end of 1920, after the establishment of peace with Poland and the defeat of General Wrangel's army in the Crimea, the Bolsheviks and Kemalists felt the need of direct contact with each other, the Bolsheviks wishing to organize a strong communist propaganda among the Moslems of Anatolia and the Kemalists being in need of support during the war.

A hindrance to the establishment of direct relations between Anatolia and Moscow were the Governments of Georgia and Armenia. To remove this, a plan was elaborated between the Governments of the Kemalists and the reds for a general advance into Transcaucasia. The Kemalists advanced into Armenia and the Bolsheviks into Georgia. The result of these operations was that the Kemalists occupied half the territory of the Armenian democratic Republic, taking Ardagan and Kars; and the Bolsheviks, after causing a communist revolution in Georgia, established their power in this Republic and in the remaining part of Armenia. In this way becoming masters of Transcaucasia, the Bolsheviks established a direct contact with the Kemalists.

Then the Kemalists, having received arms and ammunition from Russia, defeated the Greeks and advanced to Constantinople.

But in this alliance of Kemalists and Bolsheviks the chief drawback is their interior relations.

The Bolsheviks, in helping the Kemelists, were aiming to organize a strong communist propaganda in Anatolia and to cause a social communist revolution among the Moslems of the world.

The Kemalists, fighting exclusively for their national Moslem idea, could not countenance such a propaganda even on the part of their sole allies, and fought against it in Anatolia by all the means in their power.

The Angora Government gave all possible attention and honor to the official representatives of Moscow at Angora and at the same time persecuted in every way the unofficial communist agents. The agitators were arrested by the Turkish gendarmes and were sent back to Russia or disappeared—that is to say, were shot.

The same measures were taken toward those living in Turkey, Moslem or non-Moslem, who showed inclinations to communism and under the influence of propaganda became members of the communist party.

In conclusion, the relations between the Kemalists and Bolsheviks may be summarized as follows:

Accepting this military and political help, leaning on them in difficult moments, and looking to them for support in the Near East conference, the Kemalists at the same time consider the Bolsheviks as their worst enemies and understand that the success of Bolshevik propaganda would be the ruin of Turkey as a national state.

The Bolsheviks, on the other hand, use this alliance in international diplomatic combinations with European powers, depending on the Kemalists as on an important victorious military power.

At the same time they strive to destroy Turkey as a national state and to establish in its place a Turkish soviet socialistic republic. They look upon the present leaders of Turkey as the worst enemies of their aim and idea of a world's communist revolution.

The same source has supplied the following brief review of the political situation existing between Rumania and Bolshevik Russia:

The relations between Rumania and Soviet Russia have been very strained for the past three years and are not improving with time.

There are two reasons for this: (1) Rumania in 1918, after the Versailles treaty, when civil war had begun in Russia, annexed Bessarabia, which

belonged to Russia, and later proclaimed it to be a part of Rumania; (2) the Bolsheviks spent for international propaganda more than 1,000,000 ley of the Rumanian gold fund, which was transported from the Rumania State Bank to Russia in 1915 during the Great War when Rumania, after having suffered great defeats, was threatened with the loss of its deposits.

At this latter time a contract was drawn up between the Rumanian and Russian Governments by which the gold reserve fund of the Rumanian State was to be transported to Moscow, where it was to remain until the end of military operations. The Bolsheviks took possession of this gold and spent it largely in propaganda work. Having no possibility of returning it to Rumania, the Bolsheviks nevertheless could not submit to the losing of Bessarabia, a region so rich in corn and cattle, and not having the strength to take back Bessarabia, the Bolsheviks organized a strong propaganda in this region among the Moldavians, and the success of this propaganda is due to several factors.

In the first place, Rumania, after having annexed Bessarabia, began to persecute all that was Russian—the language, usages, schools, and other Russian organizations.

In the second place, this propaganda was colored by national Russian ideas, playing on the wishes of the population to be returned to Russia.

A special preparatory course for Bolshevik agitators for Rumania has been established in Odessa, where special attention is given to the teaching of the Rumanian language. All agitators finishing this school were sent to Rumania and chiefly to Bessarabia for propaganda among peasants, workmen, and soldiers.

Certainly if Europe will present serious and collective resistance to the Bolsheviks and all their allies they will easily overpower their undisciplined and unorganized armies and thus cause a state revolution in Russia, leading to the downfall of the Soviet Government of Jewish commissars and will help to establish a National Russian Government. But whatever happens, the first blow of the red army will, if it comes, fall on Rumania.

RUSSIA.

SOVIET ACTIVITIES ABROAD.

January, 1923.

While in Switzerland and speaking to an intelligence agent of the old Russian Government who is stationed there, and to whom I had a letter of introduction, he informed me that the Bolshevik Government of Russia is greatly curtailing its activities abroad, concentrating on a very few countries. Formerly they had a rather extensive propaganda and intelligence service in every country of western Europe, and the head offices for this work were in Hamburg and Vienna. The attitude of France, fascism in Italy, and the recent elections in Switzerland have given them severe setbacks. Also their funds available for such work are at a low ebb and they are concerning themselves in the future with those few countries where all of their efforts will be concentrated. In Europe these countries are

the Balkan States, and Bulgaria in particular. The Hamburg office has been greatly curtailed in its activities, while the Vienna office (which was the principal one) has been moved to Sofia, Bulgaria. Here the Bolsheviks hope to establish an "advance guard" red state, and their efforts will emanate from Sofia.

Next to the Balkans, the Bolsheviks are concerning themselves with America, and although this particular agent was out of touch to a large extent with activities in America, yet he knew this to be a fact. (NOTE.—Later investigations have confirmed this fact.)

In further connection with the Bolshevik work in Bulgaria, I have received reliable word that the money for the upkeep of the Bolshevik organizations in Bulgaria comes from Berlin and these organizations (and the police who are in their hire) are very low on funds at present, as the German courier who brings this money from Berlin to Sofiia was recently arrested while passing through Yugoslavia, and the 27,000,000 Bulgarian levas he was carrying were confiscated.

SPAIN.

ACCOUNT OF THE SPEECH OF REPUBLICAN LEADER.

15 January, 1923.

Alejandro Lerroux, in addition to being the head of the Republican Party in Spain and leader of the Spanish Radicals, is possibly the most eloquent platform orator in the country, and has been designated by his party to present the ideas of the antimonarchical wing before the people of southern Spain. Originally scheduled for a number of meetings in various cities of Andalusia, he later decided to concentrate on one meeting in Seville to which the other cities would send delegates. The undoubted important effect of the recent Lerroux speech at Valencia on the present political situation, together with the general dissatisfaction over Moroccan events and the high reputation of the speaker, combined to create unusual interest in the address.

Some 2,500 people heard the orator, the audience being limited by the capacity of the San Fernando Theater. With admission by ticket only, the auditorium was packed and several thousand were turned away. It was a middle-class audience, none of the aristocracy and few of the lower class being evident. Probably very few of the listeners to Lerroux's words were there out of curiosity. It seemed that it was a thinking audience, more like people listening to a sermon than to the incendiary utterances of a radical. Very serious it all seemed, and with restrained enthusiasm that reached its peak when for a moment it appeared Lerroux used the word "Rey"

at the culmination of a violent peroration urging immediate punishment. It relapsed into silence when the speaker, after a pause, added two more syllables, thus making the " regimen " instead of the " Rey " the objective of his attack.

Delegates were present representing all the southern cities from Malaga to Huelva. While quite evidently approving all the speaker said, and particularly his cautious trespasses on the delicate ground of criticism of the throne, the audience was most orderly and rendered quite unnecessary the platoon of policemen detailed at the theater.

While Lerroux went as far as he dared in his pleas for a republic, there was no direct attack on the King nor any startling disclosures that have not been repeated time and time again in the press. However, that a speaker in Spain may nowadays demand a republic and mention the King and the gallows in the same paragraph, and get away with it, is an important indication of the trend of Spanish thought. Especially so when the speech was made at Seville, the stronghold of royalist feeling.

Lerroux opened his remarks by saying that he had been sent out by the Republican Party to present its platform to the masses of the people.

If we can not bring to account by legal means those responsible for the Moroccan disaster we must appeal to those other methods appealed to by people in the hour of their redemption. The blame reached the highest power of the State, and the immunity allowed by the constitution can not prevent this blame falling in the highest place.

He reviewed the Spanish disasters since 1898, asserting that the responsibility was neither civil, military, diplomatic, nor economic, but was in the régime whose definite representative was the sovereign. That the courtiers did not inform or advise the King but that, on the contrary, only adulation prevailed, and to such an extent that even the conquest of Portugal was considered.

I know that the constitution grants the monarch freedom from responsibility for the acts of his government and that his person is sacred and inviolate. Thus, while I can not say that the King is responsible I do say that the King is culpable.

That the King's constant intervention in the political situation handicaps the action of the government, and that his meddling in difficult military operations are worthy of undeniable censure. By his placing individuals without merit at the head of the army he has established favoritism and constructed a Pretorian system.

" Referring to the present situation he said: " The expediente Picasso is now sleeping the sleep of the just and hoping that a new political alignment will do it the evident justice it demands." He

enlarged on the already well-known scandals in high command in Morocco and described some of the most flagrant instances of corruption, particularly the cases where permits for gambling were sold, the money going directly into the pockets of the commanding officers. Other graft was apportioned out to the officers on a sliding scale according to rank. "What did the favorites do in Morocco? They occupied posts far from the line of combat, their lives in perfect safety, and returned to the Peninsula enormously wealthy." Also, "Morocco has fallen direct heir to the same motives that caused disaster in Cuba and the Philippines; there is no remedy other than the complete and radical transition of the Government of Spain."

Lerroux's reference to the rumor of his possible appointment as high commissioner in Morocco was wrongly reported in the newspapers. What he really said was that he would accept the appointment if offered by the people, but that its coming from the King was an insuperable bar to acceptance.

His closing words, which have caused a great deal of subsequent comment and the statement by the civil governor that the police were derelict in their duty by failing to interfere, were as follows:

> How can these reforms be effected? A forced abdication would be a humiliation such as occurred in Greece and in Germany. A voluntary abdication would rebound in the glory to the King, who would thus leave the memory in all hearts of his having facilitated the solution of the national problem. A forced abdication is also a revolution and can not be obtained without creating in the country a state of mind impelling it. And if this does not occur no one will be surprised should the exalted temperaments and burning hearts see on the horizon of national life the silhouette of the gallows for those who deny to a sovereign people its legitimate rights.

SPAIN.

GENERAL NAVAL NOTES.

January, 1923.

It is announced from Madrid that the light cruiser *Reina Victoria Eugenia*, built at Ferrol Dockyard, has been handed over to the Spanish Government after successful trials, when she is said to have done 26 knots, half a knot over her contract speed. She displaces 5,590 tons, is 462 feet long over all, 50 feet beam, 15 feet 9 inches mean draft. Her design is similar to that of British cruisers of the *Birmingham* class. Her Parsons turbines develop 25,500 S. H. P. on two shafts; her coal-fired boilers are 12 in number and of Yarrow type. Her Vickers armament consists of nine 6-inch guns, four antiaircraft 3-pounder guns, one 12-pounder gun,

and four 21-inch torpedo tubes. The side and deck armor is 3 inches thick.

There are two other cruisers of the same type, but with greater engine power, now in course of completion at Ferrol—the *Don Blas de Lezo*, launched in July last, and the *Mendez Nunez*, which entered the water in December. They are lighter and faster than the vessel just commissioned, displacing about 4,725 tons and designed for 28 knots, burning oil fuel. Two swift and powerful cruisers have now been commenced. They are of the *Raleigh* type, to displace about 8,000 tons and to do 33 knots on trial. These supercruisers have been designed by Messrs. Armstrong Whitworth & Co.

The authorized strength for enlisted personnel of the navy for the first three months of 1923 (calendar year) is: 13,000 sailors, including all grades; 2,556 marines, including all grades.

NOTE.—The marines in the Spanish service are called marine infantry (infanteria de marina) and are used as garrisons for shore stations, on sea duty, as arsenal guards, and as orderlies.

SWEDEN.

EVIDENCE OF UNSATISFACTORY CONDITIONS IN NAVY.

February, 1923.

An argument is going on in the Riksdag and in the press regarding the condition of the Swedish Navy. The Stockholm Dagblad recently contained the following editorial:

At the budget debate the Minister for the Defense let it be understood that the navy in general, and especially the submarine fleet, is well equipped. As to the navy, we knew, of course, that this statement was incorrect, and even as regards the submarines we had all reason to have our doubts.

The true state of the submarines is shown by a report just submitted by the inspector of the submarines, Commander Gisike, for 1922. He states that the service of the officials and especially the sailors on board submarines is very bad, owing to too short maneuvers. A good example of the state in general is the submarine, the *Delfinen*. Of the crew this boat should have according to mobilization commands, only one officer is believed to have a complete knowledge of the boat, and one other has a small knowledge of it. All the others know nothing whatever about this kind of boat and its management. The example would probably be duplicated as regards the other submarines, according to the inspector.

As it is evident that the strength of the submarines depends upon their being well managed and upon the expert knowledge of the possibilities of each boat, we can easily understand that everything is not well, and in spite of the declaration of the Minister of the Defense that everything is well, action must be taken.

TURKEY.

NOTES ON NATIONALIST ARMY.

February, 1923.

An American official was recently sent on a short trip to Angora. The object of this trip was to obtain at first hand the opinion of the nationalist leaders.

Informant is a keen observer, but has had no military training.

The following information was obtained by questioning informant on his return yesterday:

DISTRIBUTION OF TROOPS.

A great deal of troop movement was noted, particularly about Ismid, where he stayed two days. The general direction of the movement was toward the Ismid Peninsula.

DISCIPLINE AND MORALE.

The morale of the nationalist troops appeared to be very good. They sing in marching through the towns, and appear to be in excellent spirits.

INDIVIDUAL EQUIPMENT.

The nationalist troops appear to be serviceably clad and equipped. Clothing and equipment seem to be durable and ample for field use, though no pretense is made to present a trim and soldierly appearance.

ORGANIZATIONAL EQUIPMENT.

Many machine guns were observed. They were carried on German pack saddles on donkeys.

MILITARY TRAINING.

No training of any kind was observed.

TRANSPORTATION.

A great deal of camel transport was observed, and also considerable motor-truck transport, particularly near Ismid and at the break in the railroad at Bilejik.

There is a break in the railroad at Bilejik (50 miles east of Brusa). This break is 15 miles in length and comprises an important railroad bridge. It is calculated that this break can not be repaired before 1st of April. It has a very detrimental effect on practically all movement of troops and supplies. As will appear from a railroad map of Anatolia, it is in a particularly unfortunate place on the main

line of railroad. Informant reports that the motor trucks run from one end of the break to the other in from one and one-half to two and one-half hours and that a large transport is kept at work there.

WAR PLANS.

Informant had a long talk with Racuf Bey, Minister of Foreign Affairs. Racuf Bey is a highly educated and intelligent man who distinguished himself in the Turkish Navy in the Balkan wars.

Racuf Bey said that Turkey wanted peace, but was quite prepared for war. Complete plans for war have been drawn up for use in the event of the breakdown of the Lausanne Conference.

Racuf Bey gave the following information regarding war plans:

1. The Turks would immediately attempt to drive the British Fleet from the Bosphorus by gunfire.

2. The Turks assumed that the Greek Army now in western Traco could and would move into Constantinople. While the Turks could not now prevent that movement, they were confident that they could eventually drive the Greeks out of Constantinople.

3. The main Turkish line of action was only hinted at in a cryptic fashion. Racuf Bey said that the Turks always did the unexpected; that they often accomplished the impossible, though rarely the possible; and that while their action would not immediately bring pressure upon Europe, it would do great damage to the British Empire—meaning, apparently, either Islamic revolutionary movements in India and Egypt or a Russian attack on India.

TURKEY.

THE GENERAL MILITARY SITUATION.

1 February, 1923.

Persistent rumors relative to the probable evacuation of northern Syria by the French have led the latter to recently issue a denial of this and to state that they had no intention of giving up any part of that country. There is little doubt, however, that the situation in Syria is uncertain. General Gouraud, French high commissioner in Syria and the Lebanon and commander in chief of the Army of the Levant, left Beirut for France in November, apparently as a protest against a reduction of the force under his command. It is generally believed that he will not return to Syria so long as there is any prospect of evacuating any part of that country and turning it over to the Turks, feeling that he can not continue at a post which might become so reduced in power and prestige.

It is reported from two separate official sources that in case of an open rupture the Turks intend guerrilla warfare against both British

and French, and to support this with their regular forces, having Mosul, Alexandretta, and Aleppo as objectives. So far as known, the Turks have made no actual threat against Syria and have not increased their forces on the Syrian front. In Iraq, however, it appears that they are already threatening the Mosul area. Some time ago there was quoted an unconfirmed report that a Turkish force had left Van in the direction of Mosul. This is now apparently confirmed by information just received from an official source that large Turkish forces have arrived at Zakko (about 50 miles northwest of Mosul), that the British are rushing forces to Mosul, and that hostilities are inevitable.

The latest information received gave the strength of the Turkish regular forces as 10,000 on the Caucasus front and 3,000 each on the Iraq and Syrian fronts. In addition to 9,000 native and 7,700 Indian troops there are 3,800 British troops in Iraq in addition to eight squadrons of the Royal Air Force (about 190 machines and 3,000 men). It will be recalled that since last October the latter has been in charge of the defense of Iraq, probably the first instance in which aviation has been used as the first line of defense. The French forces in Syria at present total about 26,000.

There is no change in the military situation in the Constantinople area, and the British and Turkish strengths just reported are very nearly the same as those recently given. The British have 750 men on the Maritza River, 11,000 at Gallipoli and Chanak, and 9,000 in the vicinity of Constantinople; there is a strong artillery concentration on Gallipoli, a force of at least 50 airplanes, and the fleet could provide a landing force of over 4,000 in case of emergency. The Turkish combat strength in western Anatolia is estimated as between 65,000 to 70,000, of which about 6,000 are cavalry. In addition, there are believed to be about 20,000 armed Turks concealed in Constantinople and about the same number (including gendarmes) in Thrace.

General Harrington has received instructions, it is believed, not to sacrifice any British troops in trying to hold Constantinople, but not to evacuate until absolutely necessary, in which case he would move his forces by water to Gallipoli, which the British believe can be held indefinitely against overwhelming odds. In this connection, however, it is interesting to note that an officer of General Harrington's staff was at Saloniki about February 1 for the purpose of determining the availability of that city as a base for possible operations against Turkey. As a precautionary measure, heavy baggage and other stores that it might have been necessary to abandon in case of a sudden withdrawal have been sent from Constantinople to Gallipoli.

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TURKEY.

VARIOUS ITEMS REGARDING ARMY.

The strength of the present nationalist army of Turkey is 180,000 men of all arms. They are mobilized at various places from Anatolie to Thrace, and consist mainly of cavalry and infantry with a few divisions of artillery. There are 8,000 cavalry and infantry troops now in Constantinople and Thrace acting as military police. This includes the gendarmes at the palace, and the city police.

There are 18,000 men stationed in a small town about 25 kilometers east of Scutari, standing by for call. These are troops that were withdrawn from the vicinity of Chanak several months ago.

Contrary to many reports, the officers of the Kemalist Army are not German or German trained. They are in some cases ex-officers of the imperial army, others graduates of the cadet corps of Constantinople, and still others selected from ranks for meritorious service.

The laws or decrees passed out by the National Assembly at Angora make all males of a certain age liable to military service. In many cases men enlisted voluntarily because of lack of employment and they knew that they would be clothed and fed in the army. The new "Yong Turk" movement or hatred for certain foreign population prompted many to enlist and still others were taken by conscription.

The discipline is fair and the organizations are fairly well organized and officered.

In Angora there are two ammunition factories for the manufacture of small arms and artillery ammunition. Each employs about 600 men.

There is one factory near Ismail that manufactures only small arms ammunition and employs 60 men.

YUGOSLAVIA.

ESTIMATE OF THE MILITARY SITUATION.

10 February, 1923.

1. STRENGTH.

Present strength, 60,000; trained reserves, 1,000,000; military man power, 2,000,000.

The present authorized strength of the active army is 120,000 officers and men. This will be attained when the class of 1923 is called up in April.

2. ORGANIZATION.

Liability to military service is as follows:

1. In the national army:
   (*a*) Active army with the colors from 21 to 31 years of age.
   (*b*) (Reserve) from 38 to 45 years of age.
   (c) Ersatz from 38 to 45 years of age.
2. For the final defense of the country:
   (*a*) All men from 18 to 21 years of age.
   (*b*) All men from 45–50 years of age.

Organization of the present active military forces: (1) Ministry of War, (2) general staff.

The military forces include:

First, Second, Third, and Fourth Armies.
First and Second Cavalry Divisions.
The Royal Guard (4 infantry battalions, 1 cavalry regiment).
Coast artillery (1 regiment).
Engineers (5 battalions).
Aviation forces.
Motor transport.
Gendarmerie (5 brigades).

Armies consist of:

Army troops, plus from three to five divisions.
First Army—5 divisions.
Second and Third Armies—4 divisions.
Fourth Army—3 divisions.

Army troops consist of—

Cavalry—1 regiment (to be formed from the reserve in time of war only).
Heavy artillery—1 regiment (howitzer), 1 regiment (gun).
Air squadron—1.
Technical troops—(1 battalion pioneers, ½ pontoon company, ½ miners company, ½ telegraph company, ½ searchlight company, 1 pigeon section).
Depots—Medical, ordnance, engineer, quartermaster, Red Cross, technical, aviation, motor transport.
Motor train—1.
Frontier guards—1 regiment of infantry.

Divisions consist of—

3 to 6 regiments of infantry, 4 batteries of field artillery, 2 batteries mountain artillery, 1 squadron cavalry.
Divisional services (veterinary section, ammunition train, repair section, baking company, supply train, sanitary train).
Approximate war strength of division is 32,000 men.

Infantry.

Regiments consist of 4 battalions of infantry, sanitary section, pioneer section, signal section, train.

Battalions consist of 4 companies of infantry (each company 263 men), 1 machine gun section of 9 guns.

Cavalry.

Divisions consist of 2 brigades of 2 infantry regiments, 1 group of horse artillery of 2 field batteries and 1 mountain battery, 1 detachment of mounted pioneers, 1 detachment of mounted signal men.

Regiments consist of 4 squadrons, 1 machine-gun troop.

Squadrons consist of 176 sabers.

Artillery.

Field and mountain: Regiments consist of 2 groups of 2 batteries field artillery and 1 battery mountain artillery each.

Heavy: Regiments consist of 2 groups of 2 batteries each.

3. EQUIPMENT.

The infantry is armed chiefly with Mannlicher rifles, of which there are 120,000; Lebel rifles, of which there are 70,000; and Mauser rifles, of which there are 15,000.

The First Cavalry Division is armed with the French carbine; the Second Cavalry Division is armed with the Mannlicher carbine.

The artillery of the First Army is of French-make Schneiders; of the Second, Third and Fourth Armies, Skoda.

The bulk of the equipment consists of remnants of old war stocks of assorted types which needs reconditioning.

The peace-time army is well equipped. A force of 500,000 could be equipped after a fashion, though decidedly lacking in heavy artillery.

Appropriations have been made for the purpose of purchasing 500,000 rifles, and effort is being made also to secure other equipment and war supplies from European countries. Rapid improvement may be expected as soon as the financial condition of the country strengthens. The country does not possess arsenals capable of manufacturing arms, and owing to the depleted finances it is difficult to obtain credit for purchase of war supplies.

4. MOBILIZATION.

(*a*) *Mobilization of active divisions.*—The active divisions are all of reduced strength and plans for mobilization, either partial or complete, call for filling up part of all of them to war strength. The staff counts on two days for completion of mobilization of regiments; four days for other units and six days for concentration. Filling up all active divisions to war strength gives a force of 500,000.

Owing to the transportation difficulties, as well as shortage of equipment, it is not believed that the staff schedule for time of mobilization can be executed.

(*b*) *Mobilization of reserve divisions.*—Owing to the impossibility of equipping them at the present time, mobilization of reserve divisions is useless. Plans exist for the mobilization of the personnel of reserve divisions when the necessary equipment is secured.

5. THEORY OF COMBAT.

The national policy is to hold and consolidate the newly acquired territory, rather than to look to further acquisition. The natural theory of combat is therefore defensive, although the army is well trained in offensive tactics. Doctrine of training is French.

6. EFFICIENCY AND MORALE.

The efficiency and morale of the Army is excellent. Discipline is rigid. Training is effective. The staff is efficient. The standard of excellence among both officers and men is high.

NAVAL.

STRENGTH.

Personnel.—One hundred and eighty-three officers, 3,043 men.

Vessels.—Six mine layers of 520 tons, 8 torpedo boats of 250 tons, 4 torpedo boats of 200 tons, 1 torpedo boat of 50 tons, 4 mine sweepers of 78 tons, 5 tenders of 100 to 250 tons, 1 radio ship of 2,160 tons, 2 tugs—260 tons, 4 river monitors of 600, 536, 440, and 446 tons.

ORGANIZATION.

The Ministry of War and Marine controls the navy, which is divided into the Adriatic Fleet and the Danube Fleet.

The Adriatic Fleet, together with all shore activities and naval services on the Adriatic is divided into first coast command, Kraljevitsa; second coast command, Spalato; third coast command, Kotov.

The Danube command is at Novisad.

Naval aviation is under the section for air service, in which there is a special section for hydroaviation with headquarters at the Boca de Cattaro.

There are now 16 hydroplanes in serviceable condition.

ARMAMENT.

Mine layers and torpedo boats which belonged to the old Austro-Hungarian fleet are armed with 9-centimeter guns of the Skoda type.

The gunboats have a total armament of six 77-millimeter guns, twelve 120-millimeter guns, and two 190-millimeter guns.

DISTRIBUTION.

All the vessels, except the four gunboats, are assigned to the Adriatic Fleet.

The gunboats compose the Danube fleet.

Chief naval base is Boca de Cattaro.

EFFICIENCY AND MORALE.

The efficiency and morale of the navy are only fair. The torpedo boats are all in need of repair.

GEOGRAPHIC.

Geographic information affecting the strategy of the country:

Coast line.—The entire Adriatic coast line is rugged. The Dinaric Alps closely parallel the coast. There are few landing places and no coastal plains affording space as a base for invading troops. Although a limited number of troops may effect a landing, the chances are that the defenders can concentrate superior forces and drive them out.

The passes through the Dinaric Alps are few and easily defended.

Italian frontier.—This is mountainous and can be stubbornly defended. The heights are slightly greater on the Italian side.

Austrian frontier.—This is mountainous and can be strongly defended. The Kararvanen Range and the Drave River form especially strong natural obstacles to an enemy advance.

Hungarian frontier.—That part of Yugoslavia beyond the line of the Drave and Danube Rivers is exposed to attack. The Drave and the Danube Rivers form strong natural obstacles. In the event of this line being penetrated the enemy is confronted at no great distance by mountainous country easily defended. The line of the Save also affords a strong secondary position.

Rumanian frontier.—The Danube, as well as the mountainous nature of the country, renders the frontier very strong until the plains of Banat are reached. Here the Danube no longer marks the boundary and the country is flat and favorable for invasion by Rumania. The line of the Theiss River affords a good defensive position.

Bulgarian frontier.—The mountainous character of the frontier makes it very strong. The advantage is with the Yugoslavians, due to the acquisition of important strategic points as a result of the peace conference.

The line of heights east of the Vardar and Morava Rivers affords a strong secondary line, while the Vardar and Morava furnish a third line of defense.

Greek frontier.—This is naturally strong, following in general the crests of mountain ranges.

Routes of penetration of either Greece or Yugoslavia would be by way of Monastir or the Vardar Valley.

Albanian frontier.—Generally mountainous and more favorable to Yugoslavia, especially near Scutari, where Yugoslavia dominates the crossing of the Boyana.

Interior.—Extremely mountainous, except in the Banat, Backa, Baranja, and Eastern Slavonia. Well adapted to defense.

Transportation.—The Save, Danube, and Drave Rivers are navigable. Railway lines are inadequate, especially in Serbia and Montenegro. The Government is promoting further construction as rapidly as possible, especially the project to build a double-track standard-gauge road from Belgrade to the Adriatic, either at the Bay of Cattaro or Metkovitch near the mouth of the Narenta.

SITUATION.

Present situation.—Yugoslavia is a member of the Little Entente with Rumania and Czechoslovakia and is assured of armed support by these countries in case of war with Bulgaria or Hungary. Greece is friendly and has signed a commercial treaty giving Yugoslavia the use of Saloniki as a port. Recent friction with Italy over the Dalmation littoral is abated. Austria, Hungary, and Bulgaria are unfriendly, and aspire to regain the territory ceded to Yugoslavia as a result of the war. Although the army is efficient, Yugoslavia lacks the arsenals to manufacture the necessary arms and equipment to utilize her full man power and is too poor to buy these supplies.

Future situation.—Yugoslavia is making every endeavor to strengthen its finances and to thereby obtain the needful arms and equipment which will make for national security in case of war with Bulgaria, Austria, Hungary, or Italy, or any coalition of these powers.

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NAVY DEPARTMENT.
Washington, D. C.

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Officer.	Initials.	Date received.	Date forwarded.
Captain			
Executive Officer			
First Lieutenant			
Navigation Officer			
Gunnery Officer			
Communication Officer			
Engineer Officer			
Medical Officer			
Supply Officer			
First Division Officer			
Second Division Officer			
Third Division Officer			
Fourth Division Officer			
Fifth Division Officer			
Marine Officer			

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The material for the Bulletin is largely derived from service sources, and its interest and value are correspondingly dependent upon the number and character of the reports received by the Office of Naval Intelligence from our own officers. In this connection the observations of officers afloat are of great value, particularly if the reports rendered are drawn up in accordance with existing intelligence instructions.

While political and economic information is undoubtedly of great value, the collection of military information should come first in the intelligence work of cruising ships.

The attention of the service is particularly invited to the following article which appears in this month's Bulletin:

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GREAT BRITAIN.

AIR STRENGTH COMPARED WITH OTHER POWERS.

2 March, 1923.

Recently there has been much discussion upon this subject in Parliament in connection with the new air estimates. The following extracts from statements of the Secretary of State for Air have been taken from the Parliamentary Debates. They give an insight into the views of the responsible British officials upon this important subject.

In reply to an inquiry in the House of Commons, 28 February, 1923, as to the numbers of personnel and of squadrons of the air forces of France and Great Britain, respectively, at the latest available date, Sir Samuel Hoare, air minister, made the following statement:

It is impossible for me to give the complete number of personnel of the air force of France, as many of the functions of the French air service are carried out by naval and military personnel. The only official figure that I can give the Right Hon. member in this connection is 37,730 for the naval, military, and colonial air forces, but I would point out to the Right Hon. gentleman that these services are not accurately comparable with the Royal air force. I would refer the Right Hon. gentleman in this connection to the explanation on this point which I gave to the honorable and gallant member for Hull on 14th December. The latest figure regarding the number of French squadrons is 140 (of nine machines, on the average). The British figures are: Number of personnel, 29,306; number of squadrons, 32 (of 12 machines, on the average).

In reply to a question addressed to the First Lord of the Admiralty as to how many additional flying boats as well as seaplanes have been added to the strength of the navy, and what number have been constructed, or are being constructed, since July, 1921, the air minister made the following reply:

I have been asked to reply. So far as the navy is concerned, 14 seaplanes are serving with or are available for service in fleet carriers. There are five flying boats under the orders of the air officer commanding coastal area, and five under the air officer commanding, Malta, which are detailed for cooperation with the fleet, and which work from a share base. With regard to modern developments in aircraft, 10 flying boats and 12 float seaplanes have been constructed since July, 1921, or are at present being constructed for service with the navy. These numbers do not take account of 33 flying boats and amphibians of various experimental types which have been tried or put under construction since that date. A comparison between July, 1921, when the obsolescent war types were still in service, and February, 1923, when the

old stock has been largely scrapped and the new and improved types are being substituted, would not be a useful or fair comparison. The period was one of transition and change over from an older to a newer equipment, and the newer equipment was itself, moreover, largely of an experimental kind, for which it would have been bad policy to place large orders prematurely. I may add that the policy of development which is being followed has been agreed upon between the Admiralty and the air ministry.

In answer to further questions in the House of Commons, the Secretary of State for Air stated that the relative strength of the air forces of France, Belgium, and Great Britain on the Continent of Europe, including Constantinople, is as follows: Great Britain, 15 squadrons; France, 100 squadrons; Belgium, 14 squadrons.

The average establishment of a British squadron is 12 machines; that of the French, 9; and the Belgian, 10.

The relative numbers of fighting, spotting, and bombing machines are: Great Britain, 32 squadrons; France, 128 squadrons; Belgium, 14 squadrons.

Regarding the number of trained pilots, observers, and mechanics on the active list, the figures he gave are:

Great Britain: 1,158 pilots, 75 observers, 19,421 other ranks employed on ground duties.

France: Provision is made in the current year for 3,039 flying personnel and 30,477 other ranks. But it is noted in regard to the latter figure that it is misleading, as a large number are found from the army, and are not included in the foregoing.

Belgium: 2,000, all ranks; but the service is in process of reorganization.

The Secretary of State for Air further stated that the number of aircraft on the French civil register on December 1 was 660; that French firms have produced 3,300 machines for civil or military purposes during the first 11 months of 1922, making an average monthly output of 300 machines; this includes machines for other countries.

NOTE.—The above statement of personnel applies in the case of Great Britain to the British Isles. According to other information available, the total number of French air squadrons is 128, and the British figure is believed too large. The personnel figure for France can not be justly compared with the British figure, as it does not include certain ground personnel furnished by other branches. Of the 32 British squadrons, 15 are in Europe (including the Dardanelles), 5 are in Egypt and Palestine, 4 in India, and 8 in Iraq. The French squadrons in Europe number approximately 100, with the remainder in Syria, Algeria, Tunis, and Morocco. The British and French flying personnel in Europe number about 1,200 and 3,000, respectively.

The following statements by Sir Samuel Hoare were made by him in presenting the air estimates, 1923–24, and in the discussion that followed their presentation:

In November, 1918, at the end of the war, the Royal air force was composed of 30,122 officers, 263,410 airmen, and 3,300 service airplanes. To-day it is

composed of 3,071 officers, 27,499 airmen, and 371 first-line airplanes, that is, excluding reserve and training machines; a total of 30,000 against nearly 300,000 at the end of the war.

In matters of national defense the question of cost is not a final factor, but it must obviously be taken into account. In 1913–14 the navy estimates were £48,809,300, and the army estimates were £28,220,000, about seventy-seven millions in all. This year the navy estimates are £58,000,000, the army estimates £52,000,000, and the gross air estimates £18,605,000, making £128,680,000 in all. *In other words, the defense estimates are already double what they were before the war.* If we now decided to apply a one-power standard to the air, without making corresponding reductions in the estimates of the army and navy, it would mean an immediate increase over our gross estimates of about £5,000,000, but it would mean an eventual increase in order to keep pace with the progress of other great powers of £17,000,000.

Our naval air work to-day is many stages ahead of the naval air work of any other great power; whether it be in the matter of deck landings, of torpedo attacks from the air, or of long-distance flights by flying boats, our naval work is stages ahead of the naval air work of any other great naval power, and the fact that the other great powers recognize that that is so is shown by the frequent requests that we have for air information from them, and by the further fact that a great power like Japan actually comes to us for instructors in this particular branch of air work.

GREAT BRITAIN.

CONFUSED SITUATION WITH REGARD TO COMBINED ARMY, NAVY, AND AIR FORCE COMMAND.

April, 1923.

The 1923–24 estimates call for practically no changes in the present strength of the regular army, but provide for a gradual building up of the reserves and the territorial army.

So far as minor questions of organization are concerned, there is nothing of special interest, but there are two larger questions of organization that are under considerable discussion.

First comes the status of the Royal air force serving with the navy. Although this is under the control of the air service at present, persistent efforts are being made by the navy to regain control of its own aviation, and it is believed a decision will soon be reached by the Government on this question.

It will be remembered that the Royal air force is a coordinate branch of the defense forces, entirely independent of the army and navy. Furthermore, in British mobilization plans it is now regarded as the first line of defense, instead of the navy as formerly. It has been given full control of the defense of Iraq and Palestine, although it requires the support of large forces of the army. In Iraq, for example, there are eight air squadrons, with an air force personnel of about 2,500. Acting with the air force, and under its command, are at least two battalions of British infantry, two armored car companies,

two mechanical transport companies, and detachments of signal troops, an estimated total of well over 3,000 British troops, in addition to 10,000 Indian troops and about the same number of native Arab forces.

At Gallipoli and Constantinople the air force units are not acting independently but have been divided and placed, some under the army and some under the navy.

The second larger question of organization is the unification of the army, navy and air force under a single defense department, and this question is now under investigation by a Parliamentary committee and also by a committee of the council of imperial defense. It is probable that the experience had by the British at Constantinople and the Dardanelles will result in increased attention being given to the question of unification of the forces in some form; while conditions here have gone smoothly and there has been excellent cooperation between the army and navy, this cooperation has been entirely personal, as a more complicated organization of command could hardly be imagined. The navy is under the control of the British High Commission at Constantinople, while the army is independent of all control short of London. The army and navy are independent of each other and, as stated above, the air force is split, the land planes being under the command of the general and the sea planes under the command of the admiral. If for instance General Harington wishes to use the whole of the air force for any purpose, he may order out his own land planes but must ask the navy for the sea planes. If the admiral is so disposed he may refuse. It he complies he can do so only with the permission of the High Commission which permission may, of course, be refused. If the navy establishes a sea plane base on land (as it has done) it still remains under naval command. Discipline is complicated by the fact that each of the three services has its own code; the air force code applies to air force personnel operating under the army but not to personnel operating under the navy.

At Chanak, the vital point in the defense of the Straits, General Marden is in command with his two brigades of infantry, his artillery (in two independent commands on either side of the Dardanelles), two naval batteries of 6-inch guns mounted on shore and temporarily attached to the Gallipoli command, and his squadrons of land planes. In the Dardanelles lies a detachment of the fleet with the airplane carrier *Argus*. The forces afloat, both sea and air, are under the command of the rear admiral, who is not under General Marden's orders, but there is good personal liaison between the two branches. The general and the admiral have agreed on the amount of naval gun fire and of the naval air force which is to assist the army in case of a Turkish attack, and the naval orders have been written so as to fit in exactly with the army orders. Staff officers have

been interchanged between the two headquarters and also between lower units.

GREAT BRITAIN.

MISCELLANEOUS NOTES.

3 March, 1923.

During firing practice near Gibraltar on February 28, submarine *M1* blew off the muzzle of her 12-inch gun. This is the third time such an accident has happened to this submarine.

Submarine *M1* is one of a class of three vessels, each of which carries a single 12-inch gun. Their normal crew numbers 65.

According to brief press dispatches, a torpedo exploded in a torpedo tube aboard the light cruiser *Coventry*, 8 March, 1923, in which five enlisted men were injured, two of them dying later from their injuries.

The following statement of the First Lord of the Admiralty in connection with the navy estimates, 1923–24, indicates that the reduction of personnel of the fleet that was to be effected by 31 March, 1923, is to be less than previously reported:

The reduction of the personnel of the fleet by 20,000 officers and men, which was foreshadowed in my predecessor's statement, is expected to be complete by 1st April, except for 140 officers and 1,000 men who are being retained pending the final decision of the Government on the Admiralty proposal that the navy shall in future provide the personnel for its own air arm.

JAPAN.

ACCIDENTS TO NAVAL VESSELS.

March, 1923.

The *Kuma* flagship of the third division, while maneuvering off Mitajiri on 2 March, 1923, had an accident in one engine room which required her to go to Kure for repairs.

The work was completed on 5 March, 1923, and while undergoing test a steam pipe burst, seriously injuring one man.

Submarine *No. 26* while operating off Hiroshima on 13 March, 1923, collided with the *Ryosei Maru*, a steamer of 300 tons displacement. The *Ryosei Maru* sank and the *No. 26* sustained some damage to her bow.

JAPAN.

AIRPLANE LANDINGS ON HOSHO.

March, 1923.

An English pilot, formerly of the British Royal Air Force, and at present under contract as test pilot for the Mitsubishi Internal

Combustion Engine Co. of Nagoya, has successfully accomplished the feat of landing on the deck of the airplane carrier *Hosho* in a machine built by the above company.

In all, nine landings were made, three each on three different days, as follows:

On February 22, 1923, under ideal weather conditions, with a light steady breeze, in Tokyo Bay, the first three landings were accomplished without incidents of importance. The *Hosho* underway was headed directly into the wind and given such speed through the water as to make the apparent wind between 30 and 35 knots. All three landings were excellent and in none of them did the machine approach the forward limit of the landing deck nearer than approximately 100 feet. This gave the pilot great confidence that he could safely land at a lower apparent wind velocity.

The second trial took place on February 24, 1923, under similar conditions, except that the ship was not headed exactly into the wind, but how far she was headed from the wind is not known. In making the first of three landings under these conditions the pilot thought the ship was too far from the wind, so he landed at a slight angle to the keel, heading more into the wind. One of the checking hooks carried away after it took on the wires along the deck, and the machine tipped up. The only damage done was a broken propeller, and the two succeeding landings were made without incident.

The third trial took place on February 26, 1923, under conditions similar to the first day, except that the apparent wind velocity was only about 20 knots. Three landings were made without incident, terminating the contract of the pilot as to these landings.

The pilot has stated that he considers the machine used too heavy for the purpose, but that the feat of landing on a ship's deck under favorable conditions is not a very difficult matter for a properly trained aviator. Also, he said, with no desire to seem to throw bouquets at himself, that he did not believe that at the present time there was an aviator in the Japanese Navy who could make such a landing without grave danger to machine and personnel.

At Nagoya, the Mitsubishi Co. has constructed a platform simulating a ship's deck, flush with the ground and capable of being trained in azimuth to point into the wind. On this deck the pilot had made approximately 250 practice landings before undertaking to land on the deck of the *Hosho*. Several Japanese aviators have made some practice landings, and in so doing have smashed several machines.

In the opinion of this man, the Japanese aviators generally have particular difficulty in learning to land lightly, either on land or water.

When he broke the propeller of his machine on the first landing of the second day he learned that there was only one spare pro-

peller on the *Hosho*, though there were about 800 in store at Yokosuka, the base from which the *Hosho* was operating.

The designer of the machine used (an Englishman of Mitsubishi, formerly of the British Royal Air Force) was asked to come up from Nagoya to witness the tests. He did so, but was not allowed on board the *Hosho*, having to witness the test of his own machine from a destroyer near the *Hosho*. The difference in height of deck of the destroyer and the *Hosho* made it practically impossible to see anything of value in regard to the landings. The pilot is not allowed to see the moving pictures of his own landings.

The navy department paid the Mitsubishi Co., builder of the machine, yen 15,000, to have these landings accomplished. The Mitsubishi Co. in turn paid this over to the pilot. Thus the Japanese Navy saved its "face" in not employing a foreign pilot to show Japanese aviators how to land with a Japanese plane on a Japanese plane carrier.

Large numbers of Japanese aviators witnessed the landings.

Recently another ex-British aviator employed by the Japanese Navy has been doing some night flying in a F–5 type hydroplane. He has had no difficulty in landing on the water assisted by searchlights from a man-of-war; also the nights were bright moonlight ones.

In the prospective attempts to land on the *Hosho* with a hydroplane he expects to use a Vickers viking machine, which is an amphibian.

These flights (nine) will probably be undertaken at an early date.

JAPAN.

CHANGES IN NAVAL ADMINISTRATIVE ORGANIZATION.

February, 1923.

As a result of naval limitation and reductions due to economy, the following changes in naval administrative organizations have been decided upon and will go into effect from the fiscal year 1923:

In the present division of the department offices, viz, minister's secretarial office and seven bureaus, the latter will be changed to nine bureaus. Of the three departments—technical, educational, and civil engineering—which were under the direct supervision of the minister, the last two named will be abolished.

The working of the several bureaus will be changed as follows:

Bureau of military affairs.—Chief, vice or rear admiral; will consist of two divisions. The present third division (matters relating to aviation) will be

transferred to the first division. Matters relating to education will be transferred to the first division, bureau of education. Matters relating to budget will be transferred to first division, bureau of account and supply. Matters relating to flying machines will be transferred to fifth division, technical department.

Bureau of personnel.—Chief, vice or rear admiral; three divisions, as heretofore, but the head of the third division will be left vacant and will be attended to by the head of the first division.

Bureau of education.—Chief, vice or rear admiral; will consist of two divisions. The first division will attend to matters belonging to the first section of the present educational department. The second division will look after affairs heretofore attended by second section of educational department. The affairs attended by the third section of the old department will be transferred to the first division and some to engineering bureau.

Bureau of account and supply.—Chief, P. M. vice or rear admiral; three divisions, as at present; will take over the work on budget of bureau of military affairs, educational department, and civil engineer department.

Bureau of stores.—Chief, vice or rear admiral; same as at present, with the exception of taking over the affairs relating to the movement of stores under the general staff.

Civil engineering bureau.—Chief, expert of "Chokunin" rank; there will be no divisions; will attend to matters now handled by the present civil engineering bureau.

Engineering bureau.—Chief (Eng.), vice or rear admiral; same as at present, with the exception that it will take over some of the work now attended to by third section of educational department.

Medical bureau.—Chief (surgeon), vice or rear admiral; same as at present.

Legal bureau.—Chief, official of "Chokunin" rank; same as at present.

Naval technical department.—Chief, vice admiral; out of the present sections—executive and seven sections—the first three sections, viz, guns, torpedoes, and electricity, will be put together as the first section, shifting other sections up and making it five sections besides the executive.

As results of above changes the following personnel will be reduced: Admiral, 1; vice admiral, 1; rear admirals, 3; captains, 6; commanders to sublieutenants, 2d grade, 20. The number of civilian officials reduced will be about 300, from experts down to clerks in the navy department and factory offices.

JAPAN.

FLEET MOVEMENTS.

January–February, 1923.

A change has been made in the program of employment of the first fleet.

First term training, including torpedo firing, will be concluded in March, and after fueling at Kure the first fleet will leave for the South Seas touching at Parso, Truck, and Saipan, having the Mariana group as a base.

The second fleet will extend its cruise south (some accounts report as far south as Singapore, but this is not thought to be correct).

The combined fleet will return to Japan and visit the Ise Shrine the latter part of April.

The tanker *Iro* has sailed for Tarakan for a cargo of oil and is to meet the fleet in the south.

It will be noted that this is probably the most extensive cruise ever undertaken by the Japanese Fleet.

Rear Admiral T. Imaidzuma, commanding second submarine flotilla, has transferred his flag from his flagship *Yahagi* to the submarine tender *Karasaki*, and in company with the sixth submarine division (Nos. 46 and 47), and the sixteenth submarine division (Nos. 34, 35, and 36), sailed from Kure on February 15, 1923, for an extended cruise to the south.

First they will go to Formosa and then to the island of Yap, returning to Yokosuka about March 20, 1923.

This is the most extensive cruise ever undertaken by Japanese submarines.

The Japanese training squadron composed of the *Iwate*, *Idzumo*, and *Asama*, returned to Yokosuka on February 8, 1923, having circumnavigated the globe during this cruise.

It is reported that the next training squadron will consist of the *Yakumo*, *Tokiwa* and *Asama* and that it will cruise to Australia and the south seas.

JAPAN.

MISCELLANEOUS NAVAL NOTES.

February-March, 1923.

Below is given the number of flag officers and captains of the Japanese Navy on full pay and half pay as of January 1, 1922, and January 1, 1923. It is expected that a large part of these officers on the waiting list January 1, 1923, will eventually be retired without being employed further:

	January, 1922.			January, 1923.		
	Employed on full pay.	Half pay on waiting list.	Total.	Employed on full pay.	Half pay on waiting list.	Total.
Admirals	14	1	15	11	3	14
Vice admirals	29	5	34	18	16	34
Rear admirals	47	8	55	46	28	74
Captains	179	10	189	151	82	233
	269	24	293	226	129	355

It has been the intention to install in the tanker *Hayatomo* the boilers from the *Ibuki*, due to be scrapped. However, due to the delay in ratification of the naval treaty, it has now been decided to install in the *Hayotomo* boilers to be removed from the *Fuso*. The reason assigned was the urgent need for more tankers.

It would seem from this that the *Fuso* was to have new boilers installed while she is undergoing extensive repairs.

It is evident that something has gone wrong with the light cruiser *Isuzu*. Laid down in August, 1920, and launched in October, 1921, she was to have been completed in February, 1922. She has not yet been turned over to the navy, but the reason for this is not known. The Japanese press reports her as nearing completion now and as having been docked at Yokosuka on March 9, 1923, for the purpose of having her bottom repainted. She was built at Uraga.

JAPAN.

NOTES ON AVIATION MATTERS.

March, 1923.

Following the successful flights to and from the *Hosho*, the Japanese Navy Department has decided to hasten the completion of the *Amagi* and *Akagi*. It is expected that both of these ships will be launched during the summer of 1923. It is stated that their displacement will be 27,000 tons, but how this figure is arrived at is not known. The detailed arrangement of the aviation deck has not yet been definitely settled.

The war office has granted a subsidy of yen 15,000 for the Tokyo-Osaka Asahi aerial service.

Recently an experienced foreign aviator, familiar with flying in Japan, stated that in his opinion Japan was the most dangerous country of which he had knowledge for long overland flights, because of the constant succession of broken and rugged mountains and soft and terraced rice fields. The former makes air conditions very difficult and both combined to make a forced landing at any time extremely dangerous. He said there was literally no place to land a machine except on the regular prepared fields, a few army parade grounds, and a few short stretches of beach. Many of the beaches in Japan are very narrow and many are strewn with boulders of various sizes.

Hydroplane *No. 2* of the F–5 type, belonging to the Yokosuka aviation division, while flying to Oshima (Fries Island) on February 22, 1923, was on account of engine trouble compelled to make a forced landing when near Oshima.

It seems probable that the boat struck some solid substance in taking the water, as a large hole was made in the hull and the machine sank.

The personnel were saved by fishing boats that chanced to be near by.

At Heito, a small village near Hosan, in southern Formosa, a small aerodrome has been built. It houses at present four airplanes, which are used by the Government police in maintaining security against the aborigines.

The police aviators were trained by the army, and the work is entirely of the nature of reconnaissance over the savage regions.

Some months ago the British authorities at Hongkong became quite exercised over this aerodrome, having heard that it was extensive and a prospective threat to Hongkong. A British official recently saw this aerodrome and he states that while at present it is unimportant, it can be easily and quickly developed into an extensive aerodrome.

JAPAN.

PLANS FOR IMPROVING NAVAL PERSONNEL.

February, 1923.

The Japanese Navy Department is perfecting plans looking toward improvement of navy personnel in morale and training. Discipline is to be improved and educational development to be encouraged. Appointment and dismissal of officers will receive more careful deliberation, and fair play in rewards and punishments will be the motto. Officers commissioned from the ranks are to receive equal treatment with other officers.

Gunnery and torpedo exercises and engineering practices are to be more practical as for actual war.

The study of naval strategy is to be stressed, improvements in logistics introduced, and communication improved.

Regulations are to be revised covering naval education, naval construction, warship administration, ammunition supply, naval general staff, and naval stations.

In other words, every effort is to be made to provide an adequate naval defense in the situation growing out of the Washington conference.

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JAPAN.

PROSPECTIVE CHANGE OF CABINET.

March, 1923.

It now looks as though the present cabinet, headed by Admiral Baron T. Kato as premier, would not last very long after the present session of the Diet comes to a close.

It is said that he has been a political disappointment to the unofficial political forces instrumental in selecting him for his present post. It is not thought that the attitude of the Kato government has had anything to do with the increasing political dissatisfaction with the cabinet.

The composition of the new cabinet is most uncertain, but it is unlikely that it will include Admiral Kato as minister of marine or Vice Admiral Ide as minister or vice minister.

JAPAN.

RELATIONS WITH UNITED STATES.

February, 1923.

During the last two months the tone of the Japanese press would seem to indicate on the part of the Japanese people that there is still considerable dissatisfaction over relations with America. While still acknowledging the beneficial results of the Washington Conference, it is remarked that many important matters affecting America-Japan relations were not discussed at this conference.

This attitude is very frankly expressed in a long article that appeared in the Osaka Mainichi over the name of Viscount Kentaro Kaneko, who is a member of the Privy Council and as such not without a certain amount of influence, and one thoroughly in touch with the official attitude. In this article Kaneko says: "The Washington Conference did not take up any questions dealing with the internal affairs of the United States nor any of the internal policies of any of the individual States, and as a consequence the questions which have been pending between this country (Japan) and America for long years were not brought into the discussion."

Then these questions are enumerated as: "The antialien land legislation, which is anti-Japanese, the law prohibiting the inter-

marriage of Japanese and whites, the problem of Japanese-American agrarian economy, the Japanese school question, and the question of religion, the matter of immigration and naturalization, and many others." These are characterized as the real problems at issue between the two countries, and the opinion is advanced that they must be investigated and settled with due regard for the fears of the United States and the desires of Japan.

Kaneko finally proposes that a joint high commission be appointed to study and adjust these questions.

While admitting that the questions are internal for the United States, and at the same time proposing that they be taken up by a joint America-Japan commission, the dangerous possibilities of serious disagreement in them is foreshadowed if the Japanese Goverment ever takes a similar attitude.

At a large dinner given recently by the America-Japan society to Mr. Warren, retiring American ambassador to Japan, and Mr. Hanihara, newly appointed Japanese ambassador to America, Viscount Kaneko, president of the society, said in effect that until these questions (those enumerated above) are settled, there can be no real friendship between America and Japan. This from the lips of a privy concillor seems to have been putting it rather strong.

The recent decision of the United States Supreme Court denying the right of naturalization to Japanese was followed by a large number of anti-American editorials, as was to be expected, and more recently the introduction in the United States House of Representatives of the bill to restrict immigration has brought forth another outburst. Unfortunately, many of these editorials not only condemn the specific action under discussion, but seriously question the bona fides of America in her rôle of friend to Japan.

During the present session of the Diet, the Government has repeatedly been subjected to very severe criticism by the opposition on account of its attitude toward America. This attitude has been called weak and prompted only by a desire to curry favor with America. How much of this will be remembered after the present cabinet falls, and is succeeded by another, it is impossible to say.

There is no reason to suppose that the present cabinet has in any way changed its policy of friendship and sincerity toward America, but it is believed that the attitude of the public is influenced by the various factors enumerated above to retain a suspicious and even unfriendly feeling toward America, and therefore, all Japanese matters should be observed in America now and for some time to come with the same degree of attention and care as obtained prior to the Washington Conference.

JAPAN.

SOME OBSERVATIONS REGARDING THE POSSIBLE VISIT TO JAPAN OF MR. JOFFE.

February, 1923.

NOTE.—Mr. Adolph Abramovitch Joffe was one of the Russian emissaries to the conference which framed the treaty of Brest-Litovsk. Subsequent to that he went to Germany, but was expelled from that country for propaganda activity distasteful to the German Government. He next appeared in the Far East, arriving at Chan-Chung in August, 1922, directly from Moscow, as the chief Russian delegate to discuss with the Japanese the terms of their evacuation from Siberia. That discussion ended without any agreement being arrived at on the 25th of Septmber, 1922, whereupon Mr. Joffe went to Peking as the unofficial ambassador of the Soviet Government. He has since been concerned in a number of negotiations with the Chinese relating to the return of Mongolia to China, navigation rights on the Amur River, and the disposition of the Chinese Eastern Railway. He was received with great favor upon his arrival, but he has since adopted so truculent and irritating a tone in dealing with the ministry of foreign affairs at Peking that the original esteem in which he was held has been dispelled. Lately there have been various rumors of his ill health.

In January, 1923, he proceeded to Shanghai, and after a consultation there with Dr. Sun Yat Sen he sailed for Tokyo at the unofficial invitation of Baron Kato, the former minister of foreign affairs in Japan and at present the mayor of Tokyo. The Japanese Government disclaimed any official color to his visit, but he has been consulted by various important members of the Government and also of the opposition party in the Diet since his arrival. There is no information as to his having arranged or executed any understanding with the Japanese Government regarding the matters pending between them and the Soviets.

The following observations upon this subject by a well-informed source in Peking are of interest:

The discussion aroused by Mr. A. A. Joffe's departure from Peking a short time ago, ostensibly for the south, was as nothing compared with that which his reported intent to visit Japan has inspired in both Chinese and foreign circles here There is, of course, a good deal of pure guesswork on the part of idle gossips, but there is also shrewd surmising being done by well informed persons. Everyone with a head on him has long since realized that the Manchurian situation is a mine of possible troubles, worthy of the attention of all the powers, great and small. If Mr. Joffe goes to Japan now, his visit will be viewed in all circles in Peking as having a direct bearing upon the Manchurian situation and the Chinese Eastern Railway question and will be watched with the most intense interest. This view in Peking is prompted by several important considerations.

In the first place those who have been following translations from the Japanese press carefully have noted that in the speeches and writings of many prominent Japanese, the failure of the Dairen and Changchun conference has been loudly deplored. This is interpreted to mean that Japanese officialdom is preparing the public mind for the announcement of a third conference.

In the second place Mr. Kawakami, once Japanese consul in Harbin, lately Japanese minister to Poland, who speaks Russian as well as any Russian, was recently recalled to Tokyo with orders to travel via Moscow, where he is known to have spent some time. He has just passed through Harbin and by the time this article sees the light of day he will be in Japan.

In the third place it is asserted in quarters usually responsible that Mr. Joffe did not solicit permission to go to Japan but received an invitation to visit that country and convalesce, from no less a person than Mr. Kato.

In the fourth place it is well known that the Japanese are very anxious about their fishing rights off the North Siberian coast. In recent years these rights have been renewed annually by the Vladivostok Government. While Japan controlled policy in Vladivostok and held the mouth of the Amur, as well as other points on the Siberian littoral, these rights were easy enough to obtain and it would not have been a matter of very profound concern if they had been withheld. The case is different now. The Siberian ports are held by the Reds and unless Japan is prepared to reverse her policy and reassume an aggressive attitude toward Siberia, replace her garrisons and make much play with gunboats, she will have to renew her fishing rights this season through negotiation with the Red authorities. Everyone knows that the fish supply from the Kamchatka coast is vital to Japan. The season begins in the early spring and the agreement will have to be renewed before March 1. These circumstances in themselves explain why Japan might now be eager to come to an understanding with the soviet in the very near future and why the high civil officials in Japan might be preparing the public mind for a third conference with the soviet envoys. It would also seem to explain Mr. Kawakami's visit to Moscow.

If these surmises are anywhere near correct and if Mr. Joffe goes to Japan to confer with the Japanese Government, it is obvious that the danger of a Red descent upon the Chinese Eastern Railway is not immediate. The soviet also has something to ask. It will not yield the fishing rights without a liberal *quid pro quo*. As soon as the Japanese say "fish," Mr. Joffe will say "Saghalien." It is not the practice in diplomacy to ask for less than you want and comrade Joffe is not backward about expressing his desires, so it is more than likely that in addition to asking for the retrocession of the northern

half of the island of Saghalien he will try to exact in return for the renewal of the fishing rights, and perhaps for other trading concessions, a free hand in the Chinese Eastern Railway zone.

Putting aside for a moment this latter supposition, it is easy to see why Mr. Joffe would be only too pleased to go to Japan and talk things over. The soviet folk want a working trade agreement with Japan since they are eager to recover trade in Vladivostok and the Siberian ports. They want to recover Russia's sovereignty over the Russia half of Saghalien, not only because the soviet has developed imperialistic ambitions and is coming closer at every step to the policy of the Czarist régime, but also because the Red Government is eager to win American recognition. The development of the mineral resources of northern Saghalien has already been pledged to an American mining company backed by a strong financial group. If Saghalien is recovered and the oil and coal concessions in Saghalien actually pass in American hands, the soviet leaders imagine that in a group of influential New York financiers they will have powerful friends at court. The recovery of Saghalien would therefore kill several birds with one stone. This is another reason for believing that the seizure of the Chinese Eastern Railway will not be attempted while there is a possibility of negotiating with Japan and while the American deal is pending. New York financiers can not be supposed to have any great interest in the fate of the Chinese Eastern Railway, but the American Government has, and the Soviet did not grant mineral concessions in Saghalien to please a New York mining company, but for the sole purpose of obtaining a lien upon the good will of the American Government. The chances of obtaining this lien they are not likely to sacrifice by a premature act of violence in Manchuria.

This is the soviet side of the picture, which is not difficult to ununderstand. Why the Japanese Government should accede to a demand for the restitution may not be so apparent. The answer which covers most ground is " fish." As everyone knows, fish plays a huge part in the domestic economy of the Japanese people. In the Orient it is just as commonly known that the Siberian fisheries contribute very largely indeed to Japan's supply of fish, not to mention that they provide employment and profit for thousands of sailors, ship owners, importers, dealers, and exporters. The loss of this trade would be a stupendous blow which would effect eventually every household in Japan. The right to carry on this trade, failing successful negotiations with the Soviet Government, can only be guaranteed by a reversal of the policy of the Japanese civil government, by the reoccupation of Siberian ports—that is, by a considerable outlay for military expenses—and by naval protection.

This is an alternative which the officials of the Japanese civil government would do anything within reason to avoid. At home the military expenditure would be unpopular and it would mean the resurrection of the waning influence of the military caste in all government departments, which from the new Japanese point of view would be retrogression. Abroad the reopening of hostilities with Siberia over a question of fish would be regarded with the most profound suspicion. Since the cancellation of the Anglo-Japanese alliance, Japan has very obviously felt her isolation and has made marked efforts to cultivate the confidence of her best market, America. Whatever America may think of the Soviet—and no country thinks less of that institution—Japan's withdrawal from Siberia has undoubtedly boosted her moral credit in America enormously. This the civil government in Japan would be loth to sacrifice. Long before there was any question of American concessions in Saghalien, the American Government expressed its disapproval of the Japanese occupation of the Russian half of the island. If Japan were now to refuse to get out gracefully when opportunity offered and were then to take aggressive measures in Siberia again over what would appear abroad as such a trifling matter as fish, the Japanese Government would be stormed with pompous announcements from Washington and with rabid denunciations from the whole American press.

Moved by these various considerations, the Japanese civil government might very possibly agree to trade northern Saghalien for a renewal of the Siberian fishing rights and for other commercial considerations.

Another element which would not make for success in any negotiations which Comrade Joffe might carry on with the Japanese Government, is the Joffe conception of diplomacy. If insolence and abuse lost him ground with every element in Peking and if it is impossible for him to change his tone, he will be given short shrift in Japan. Tact is not his forte, as the Chinese and residents of Peking of all nationalities can readily testify. His lack of tact borders on sheer stupidity. This will not help him to win the favor of the Japanese Government in the first place, nor help the Japanese Government to override the opposition of the militarists should it attempt to do so.

Few persons outside of Peking realize how much Joffe has sacrificed in Peking. When he arrived here, as we all know, both the Chinese intellectuals and the Chinese Government were kindly disposed. The field in this quarter was fertile and well prepared. It is not so generally known that the legations were not averse to dealing with him and were prepared in several cases to discuss out-

standing questions with him. It is probably still less known that the administration of the Chinese Eastern Railway and the Russo-Asiatic bank were fully prepared to negotiate with him and to offer him compromises. This tendency to good will Joffe has scorned and rebuffed in every quarter. He has abused the Chinese and tried to bully them until his Government is regarded as a greater imperialistic menace to the peace and integrity of China than the Japanese. He has abused the legations until no diplomat with any sense of self-respect could possibly receive him. To the administration of the Chinese Eastern Railway he has said that he had only one message for them: "Get out." The Reds in Siberia and Manchuria, fully informed of the favorable auspices under which he arrived in China, have been puzzled (according to very reliable information) to know why he did not make more headway.

No one doubts any longer that the Reds are fully intent upon seizing and controlling the Chinese Eastern Railway in one fashion or another. There is plenty of evidence which at this late date it is futile to review. The Captain Allen from Siberia, who was recently interviewed by a representative of the North China Daily News, gave a very glowing account of conditions in Eastern Siberia but made the flat statement that the Reds would seize the Chinese Eastern Railway within six months. This opinion is confirmed by every competent observer having first-hand knowledge of the Soviet's plans. The impression given by Chinese press reports from Manchuria that the Reds are all prepared to make an immediate descent is all that the soundest information would warrant us in correcting. The most competent Chinese military authorities in northern Manchuria say that the Reds have made no adequate military preparation. They are observing the movements of Red troops carefully, and say that on the whole frontier, from Pogranitchnais on the east around the Amur to Manchuli on the west, there are now less than 25,000 troops, with a few field batteries and very few machine guns. This means a very thin distribution over such a long frontier, while sufficient forces could easily be brought to the two termini of the Chinese line within a week or so to push the Chinese back and seize Harbin. The evidence is that the Reds are by no means prepared to bring in enough men in the near future to face the Chinese, supported by the existing Japanese forces in Manchuria and by the rearmed whites under Dietrichs. These facts are also quoted in support of the conviction here that Russo-Japanese negotiations are pending. No one is willing to assume, however, that the Red attempt upon the railway will be long postponed, whatever the results of these hypothetical negotiations may be.

It is not too early to attempt to appreciate the dangerous possibilities which are bound up in this question of the Chinese Eastern Railway—dangerous from the point of view of China's integrity and from the point of view of international complications as well.

JAPAN.

VESSELS LAUNCHED AND COMMISSIONED.

February–March, 1923.

The Japanese light cruiser *Yubari* was launched at Sasebo on 4 March, 1923. The *Yubari* is reported as being the fastest ship in the Japanese Navy. Her length is 435 feet, beam 39 feet 6 inches.

The second class destroyer *No. 4* of 850 tons displacement has been completed by the Kawasaki Dockyard, Kobe, and turned over to the navy at Kure.

Destroyer *No. 6* of 850 tons displacement was launched at Uraga Dockyard on February 15, 1923.

FRANCE.

NEW 18-INCH 45-CALIBER GUN.

March, 1923.

The Schneider Works at Le Creusot were visited on 6 March, 1923. Part of the information previously reported was verified from observation and discussion. The only change noted is that each hoop and the tube is expanded separately, and then the complete assembly of tube and three hoops is expanded to final dimensions.

Three hydraulic pumps, operated electrically by two 220-volt, 12-horse power Schneider motors and one 220-volt, 25-horsepower motor, supply the pressure. A multiplier is introduced in each line which multiplies the pressure 100 times. After leaving the multipliers, the pipe lines from the two smaller pumps are then combined and are connected to a nozzle which passes through the stopper in one end of the cylinder. A similar nozzle through the same stopper received a separate pipe line from the larger pump. The pressure is introduced into the cylinder through these two nozzles. A steel rod connects the two stoppers, each of which is fitted with two annular packing rings, one ring of steel and the other of a rubber composition called "Dermatine". The steel ring is fitted with a "tongue" which fits in a "groove" in the rubber ring and the greater the pressure applied upon the steel ring the tighter the joint

becomes. Water and air are permitted to leak past the joints until all the air is expelled from the cylinder.

A pressure of 2,700–3,300 kilograms per square centimeter is applied in expanding the tube. The pressure in expanding the complete assembly is slightly greater.

One tube and two hoops had been expanded. The tube and hoops for the gun being built at Ruelle were forged at Le Creusot also. Two hoops cracked while being expanded. The rear hoop cracked its entire length completely through the metal. Three old 10-inch armor plates are installed to protect the installation and personnel from such accidents. Great difficulty has been experienced in obtaining large forgings of homogeneous metal. The failures due to defective forgings, it is estimated, will make the cost of these two experimental guns about 50 per cent greater than ordinary built-up guns. The length of time for manufacture was estimated by those performing the work to be two years in the case of these two guns. The gun at Le Creusot was about 50 per cent completed.

The guns will be mounted in single slides. A single slide casting for one of these guns which was seen was being rough machined.

With an order of an appreciable quantity, it was stated that the cost and time of construction would be much less than the ordinary gun. The chief object is to complete all experimental work which would enable quantity production in case of emergency.

The life of the gun was estimated to be 150 rounds at full velocity. A range of 35 kilometers was expected.

Protracted discussions of the relative advantages and disadvantages of radial expansion and difficulties encountered therein followed. It is worthy of note that the only serious difficulty the French mention and which they emphasize, is their difficulty in obtaining good homogenous forgings big enough for major-caliber guns. It appears that this consideration in large measure determined the length of these two 18-inch 45-caliber guns. It was stated that they had a very small percentage of rejections with 24-centimeter guns and considered radial expansion satisfactory for them, even of 100 calibers in length.

My informant stated that eight 24-centimeter guns had been built for railway mounts. One 24-centimeter 100-caliber gun on railway mount was seen. It was said to have a maximum angle of elevation of 45° with a range of 150 kilometers. Ballistic firings of this type of gun have been much handicapped by lack of long enough proving ground range. (According to information on file, the only 24-centimeter guns known to exist are five of 67 calibers in length and two of 100 calibers, all of railway mounts. The guns formerly were major-caliber naval guns and were converted to 24-centimeter guns by radial expansion.)

ITALY.

AIR SERVICE MATTERS.

March, 1923.

The Lighter-than-Air Constructing Establishment has initiated the construction of the first of the "N" type semirigid dirigibles. This dirigible is being constructed for the Italian Navy and upon completion will be located at the navy dirigible station at Grottaglio, in southern Italy near the naval station of Taranto. Parts of the nickel steel keel are now being completed and the work on the envelope is progressing at the same time. The director of the establishment states that the ship will be completed about the end of July.

Characteristics.—Volume, 19,000 cubic meters (660,000 cubic feet); length over all, 106 meters (347.7 feet); maximum height, 26 meters (79 feet); maximum width, 19.5 meters (60 feet). Power, about 750 horsepower by three Maybach engines; maximum speed, 100 kilometers per hour at 300 meters altitude (63 miles per hour at 1,000 feet); hourly consumption at maximum speed, 100 kilograms of gasoline and oil at 300 meters altitude (397 pounds at 1,000 feet); normal speed, 85 kilometer-hour (53 miles per hour); hourly consumption at normal speed, 110 kilograms of gasoline and oil at 300 meters altitude (242 pounds at 1,000 feet). Dead weight, 11,000 kilograms (24,250 pounds); minimum lightening at start, 500 kilograms (1,100 pounds); equipment (including radio apparatus), 350 kilograms (770 pounds); crew (7 men), 500 kilograms (1,000 pounds); reserve of ballast and fuel, 650 kilograms (1,430 pounds). Ascensional force, average, 19,000 kilograms (41,890 pounds); there remains available 6,000 kilograms (13,240 pounds) for gasoline, oil, ballast, and net useful load. Ceiling, 4,000 meters (13,120 feet). Range at 100 kilometer-hours (62 miles per hour), 5,300 kilometers (2,050 miles), corresponding to 33 hours' flight; range at 85 kilometer-hours (53 miles per hour), 5,500 kilometers (5,420 miles), corresponding to 64 hours' flight.

A second dirigible of this type has just been completed for the Italian Navy and is now at the dirigible station near Rome for its test flights, on completion of which it will be sent to Grottaglio. It is to be used for training purposes and for coastal duty. Its volume is 4,800 cubic meters.

The constructing establishment is also carrying out the following works: (*a*) The construction of an observation balloon of 1,100 cubic meters, type "AP," for Sweden; (*b*) spare parts and accessories for a type "O" dirigible and observation balloon type "AP," which were shipped to Argentina last year; (*c*) two envelopes, spare parts, and accessories, for the two "SCA" type dirigibles sold to Spain last year; (*d*) two envelopes, spare parts, and accessories, for the two "O" type dirigibles sold to Spain last year; (*e*) one free balloon, volume 2,200 cubic meters, for Spain for competing in the Gordon Bennett balloon race in 1923.

The army air service has been greatly interested in a new 46,000-cubic meter dirigible but the Government has refused to give the necessary authority for its construction, due mainly to the lack of available hangar space and the expense of erecting the hangars obtained from Germany. Indications at present are that the Government will not give its authority for the construction of this dirigible at any time in the immediate future.

The material comprising three large dirigible hangars obtained from Germany has been in Italy now for several months, distributed at the three stations where it is planned to erect these hangars, viz, Milan, Ciampino, near Rome, and Grottaglio. In view of the expense of erecting these hangars, the Italian aviation authorities state that no decision will be made in the matter for the present. Each hangar is about 200 meters long by 60 meters in width, and it is estimated that it will cost the Government about 30,000,000 lire to erect the three.

ITALY.

NAVAL ESTIMATES 1922–23.

The estimates show a decrease of 234,000,000 lire. This saving has been effected by drastic economies in the consumption of fuel and ammunition. The estimates provide a considerable sum for the reconditioning of the *da Vinci*, which will be saved as it was decided in November to scrap her.

For 1921 the strength of the fleet was fixed at 35,000 officers and men on the active list.

For 1922–23 this has been increased to 40,000 officers and men; the increase is the addition of 5,000 long-service men which it is hoped can be drawn from the discharged classes of the three preceding years. These men will be enrolled for a minimum period of seven years.

The building program is on the average from two to three years in arrears, and during 1922, out of a total of 12 destroyers building or completing, only four have been added to the fleet.

Three flotilla leaders and four destroyers which have been under construction for four years have not yet been launched, and four submarines ordered in 1921 have been canceled.

The position as regards cruisers is obscure; the grant of 10,000,000 lire for the commencement in 1921 of two such vessels has been canceled and the money diverted to other purposes. In the estimates for 1922–23 it is stated that it is hoped to commence two cruisers.

The current year's estimates provide for the commencement of eight new destroyers and six submarines, but it is thought these will

be retarded and eventually merge into and become identified with future programs.

The eclipse of Austria as a naval power leaves France as Italy's nearest maritime neighbor, and as dictating her naval policy. The withdrawal of as many ships as possible from foreign stations was begun in 1920 and is now completed. Except for a few obsolete ships stationed in the eastern Mediterranean, the Red Sea, and China, the whole navy is now concentrated in Italian ports.

The most modern vessels of the fleet are based on Spezia and the Tyrrhenian Sea, which have now become the chief Italian naval port and exercise ground, respectively, and the home of the main battle squadron.

The late government planned large schemes for fortified bases at San Antioso Bay (southwest Sardinia), Trapani (northwest Sicily), Alghero, porte Ente (northwest Sardinia,), and Rhodes (when status settled).

Provision has been made in estimates of 1922–23 for fortifying San Antiosa Bay and Trapani, and four of the *Caraciolo's* 15-inch guns are believed to be destined for the former place. It is not thought that this scheme of fortifying will be carried out at once on account of finance.

The combined maneuvers planned for June and July, 1922, in conjunction with the army and air service, were abandoned for reasons of economy. The usual annual exercises of the fleet were also curtailed for same reasons. Target practice has been limited to 12,000 yards and half charges. Twelve knots was set as cruising and maneuvering speed and no ship was allowed to use more than half her boiler power.

ITALY.

NAVAL POLICY.

March, 1923.

The new minister of marine (Mussolini Government) has stated to the council of ministers that the provisions of the Washington Conference are held to automatically regulate the nature of Italy's future capital ship programs and that the construction of aircraft carriers was not contemplated. That the arbitrary "life" of light craft and submarines enunciated (12 years) is accepted. That it will not be his policy at present to increase Italy's strength in these arms, but merely to insure as far as possible adequate and timely replacements. He points out that the majority of Italian light craft were built in batches and will thus reach the age limit simultaneously;

replacements to follow the normal course but to be distributed evenly over a period of years in order to stimulate the shipbuilding industry of the country, at the same time avoiding an undue burden on the finances of the country for new construction. That the critical years in this respect are 1928–1930. That the present "efficient" strength of the fleet is: 11 light cruisers, 8 flotilla leaders, 64 destroyers, 43 submarines. That these numbers (which appear to include vessels now building or authorized) are considered sufficient for Italy's naval defense if regularly replaced when obsolete in accordance with the following plan:

1923.—Two light cruisers (these are already authorized); four destroyers (building at Pattisons); four submarines.

1924–25.—Two light cruisers; four destroyers; four submarines.

1925–26.—Four destroyers; four submarines.

1926–27.—Four destroyers; four submarines.

1927–28.—One light cruiser; four destroyers; four submarines.

That the M. A. S. (subchasers) built during the war are an essential auxiliary. That it is not proposed to build any more, except perhaps a few experimental types; to retain in efficient condition those on hand.

That it is not his policy to advocate expenditures on heavy fixed defenses (emplacement of ex-Caraciolo's turrets?) but as result of war experience to rely on modern heavy mobile artillery and, above all, on mines. That since mines can not be readily improvised on outbreak of war, he proposes to ask for funds to accumulate a sufficient reserve stock of mines to insure the adequate defense of all naval bases.

That naval arsenal, Naples, will be closed, but that the Bay of Naples is an important strategic point and valuable as a repair supply base for the fleet on the west coast in time of war; for this reason the necessary submarine defenses will be allocated to it.

That for reasons of economy it is proposed to maintain only two naval bases (presumably Spezzia and Taranto or Pola) in a state of full efficiency as regards personnel and matériel; the other bases will be reduced to the state of small repair bases for local craft only.

In regard to naval aviation, the minister was very inexplicit; he recognized the importance of aviation to the fleet and points out that inadequate financial provisions in recent estimates have placed Italy far behind France in this respect, particularly in aerial bombing machines. The minister stated that he would ask for an increase over last year's estimate of 4,000,000 lire (last year's estimate was 11,000,000 lire) and that effort would be concentrated largely on experiments with aerial bombers.

ITALY.

MISCELLANEOUS NAVAL NOTES.

February–March, 1923.

The "Council of Admirals" (corresponding to our General Board) met recently to determine the broad features of design for projected light cruisers for the Italian Navy.

Opinion in the council was formerly divided on the question of tonnage and armament, certain members advocating vessels of 6,000 to 7,000 tons and 6-inch guns, while others desired 10,000 tons and 8-inch guns; advocates of the former were no doubt influenced by financial considerations.

The ratification of the Washington Naval Conference seemed to crystallize opinion in the council, and now it is definitely decided that vessels will be built of 10,000 tons, mounting 8-inch guns.

The following are the details of projected Italian light cruisers: Displacement, 10,000 tons; horsepower, 130,000 (approximately); four geared turbines of modified Parsons or Curtis type (probably); speed, 34 knots (designed); designs for guns of approximately 8-inch caliber have been called for from several firms, but actual caliber is not yet determined. It seems quite certain that eight guns of approximately 8-inch caliber will be mounted, in pairs, on center line.

If finances permit, it is the intention of the ministry of marine to lay down four vessels of 10,000 tons each about June or July 1923; two as deferred ships of the 1922–23 program and two as belonging to the 1923–24 program.

A first installment toward two vessels will be provided out of the anticipated balance left over from the 1922–23 estimates.

These vessels will probably be built, one each, at the following yards: Ansaldo (Genoa), Odero (Genoa), Orlando (Leghorn), Stabilimento Technico Triestino (Trieste).

Ornaldo at Leghorn has submitted a design of a light cruiser to the Italian Government, approximately of the following design (Government's action not as yet known): Displacement 6,000 to 7,000 tons; speed 35 knots; armament eight 6-inch guns in twin mounts center line superimposed; four 3-inch guns; eight 21-inch torpedo tubes in twin broadside mounts; three smokestacks; tripod foremast and control top similar to British type.

The Italian Government is arming flotilla leaders and destroyers with guns in twin mounting, 4 inch and 4.7 inch, also 6-inch guns in twin mounts are discussed for light cruisers contemplated. *Curtatone*, *Castelfidardo*, *Calatafini*, *Monjambano* (*Palestro* class, building at Orlando-Leghorn), will have 4-inch guns in twin mounts. *Leone*, *Tigre*, *Pantera* (building Ansaldo Sestri Ponente) will have 4.7-inch guns in twin mounts.

In spite of many economies effected in the fleet during the year, and the two years' service system, which results in a 50 per cent change in ships' complements annually, the general morale and efficiency is good. The outward appearance of Italian ships is never up to American or British standards, but the armament and machinery seems to be well kept.

The morale of the officers appears good, as evidenced by the main battle squadron at Spezia, and the discipline of the men excellent. During the strikes of 1922 the navy acquitted itself creditably in maintaining order and in manning some public-utility plants.

The following information regarding submarines is recent: Four building at Spezia abandoned as already more or less obsolete and not warranting expense in view of marked progress in design since commenced; will save this money for larger types embodying new ideas. Ansaldo-Sangiorgio, Spezia, specializes in submarine construction and has two boats on its hands, built for speculation and unsold to date. It was hoped to sell to Peru (these boats are 400 to 600 tons). The Italians seem to favor a submarine of about the following dimensions: Surface tonnage, 1,400; speed, 18 knots (two Diesel engines, 2,400 horsepower); two 4-inch guns; radius action, 6,000 to 7,000 miles.

The Brazilians have been making inquiries of Ansaldo relative to two of their designs: (*a*) Surface tonnage, 950 (1,200 submerged); 16 knots (two Diesel engines); two 4-inch guns; radius action, 5,500 miles. (*b*) Same with slightly less speed; to carry 40 mines and radius action 7,500 miles.

Other Ansaldo designs are approximately as follows: (*a*) Surface tonnage, 1,650 (submerged 2,800); 16 knots (two Diesel engines); two 6-inch guns; radius action, 10,000 miles; 10 torpedo tubes (four bow, two stern, four beam); 14 reserve torpedoes. (*b*) Surface tonnage, 1,650 (submerged 2,600); 21 knots (two Diesel engines); two 4-inch guns; radius action, 2,500 miles.

The Government is fitting the *Conte di Cavour* (dreadnought) with a complete outfit of Girardelli apparatus similar to the one bought by the United States Government. It is being manufactured at the Spezia Arsenal in conjunction with the works of the Girardelli company, which are also located at Spezia. On the trials and success of this installation will depend the installation in the other Italian dreadnoughts, viz, *Caio Duilo*, *Andrea Doria*, *Giulio Cesare*, and *Dante Alighieri*.

The Italian destroyer *Falco*, 1,556 tons, is being equipped also with the Girardelli director control for its 4-inch twin mounts, but without the "central station" equipment. The guns will, however, be controlled from the director station in both elevation and train by means of the special Girardelli synchronous motors similar to

those shipped to Washington, and by means of the same director control equipment furnished the United States with the motors. These trials will take place sometime in the late spring.

The *Duilo* has the old Girardelli apparatus, but the equipment is only partially complete and is already out of date. The Italians claimed extraordinary results from the equipment, but their alleged figures are very much doubted.

Other vessels of the Italian Navy are not well equipped in matters of fire control, all equipment being more or less improvised, as was that in the American Navy prior to, say, 1908–9. They understand the problems perfectly well and have met them in a fashion; such as voice tubes and telephone communications; a good tracking instrument, " Spallagetti," and various mechanical and electrical range and order transmitters. Lack of money has been their great handicap rather than lack of ideas or progressiveness.

The Italian Government is gradually shifting from single to twin and triple torpedo tubes. They are being built up from old single tubes, which are lengthened and modified as necessary. Much of this work is being done in the torpedo shops at the Government arsenal at Spezia, also at Whitehead's old plant at Naples (now Italian owned, private, called the Silurificio Italiano, said to be owned actually by the Banca Commerciale and taken over for bad debts).

The Government is also modifying old German and Austrian single tubes into twin and triple to take the German and Austrian torpedoes captured and received as prorated war material, viz, German 19.7 inch and Austrian 20.8 inch.

Tubes are electrically trained, with alternate hand gear.

ARGENTINA.

CONTEMPLATED ALTERATION OF BATTLESHIPS IN UNITED STATES.

15 February, 1923.

It has been definitely decided to send the *Rivadavia* and *Moreno*, one at a time, to the United States for alterations and modernizing. It is hoped to send the first ship before the end of this year.

The alterations under consideration are: Install fire control; modernize tubines; replace coal bunkers with fuel oil tanks; modernize turrets.

The first three items are considered essential, the last item is still under discussion. No other alterations will be considered as it is not desired to make new ships but to modernize the most essential parts.

A board has been appointed to study the subject and submit a complete detailed report of work to be done and estimated cost. This estimate will be compared with the estimate submitted by the United States Navy Department and a liberal percentage added on. This final estimate will be presented to Congress with a request for the funds. When Congress votes the money certain of the fire control instruments will be ordered in the United States.

At least two months before these fire-control instruments are ready for delivery the first ship will be sent north.

At the same time, or before, a rear admiral or captain, thoroughly familiar with the work to be done, will be sent to the United States as the head of the Argentine naval mission. He will not have the authority to request or approve other work than that approved by the board of inspection in Argentina.

During the two months mentioned it is expected that the head of the Argentine naval mission can make all arrangements with the United States naval authorities in regard to actual work to be done, job orders to be issued, methods of accounting, etc.

This officer is strongly opposed to the idea of sending United States naval officers to Argentina to assist in the formulation of the plans or estimates. He says that it is quite unnecessary as a definite agreement is to be completed in the United States before any work is undertaken.

ARGENTINA.

PRIZES ESTABLISHED FOR BATTLE EFFICIENCY.

March, 1923.

General Order No. 52, recently promulgated upon this subject, is translated as follows:

It being just, when awarding a prize to a ship, to take into consideration all of her different services, as also the preservation of the equipment and efficiency of the personnel, and as the prizes established at present only refer to shooting, the President of the Argentine nation decrees:

ARTICLE 1.—A prize is hereby instituted which shall be called "Eficiencia" (Efficiency), consisting of a silver cup, for the ship of greatest efficiency in general, which shall be competed for annually by the ships of the navy.

The cup will be given to the unit which receives the highest classification, taking into consideration her different services, ordnance and gunnery, torpedoes, engines, signals, etc., as also the care of the material and condition of the personnel. It will be kept on board, whether in or out of commission, until the new classification, and on it will be engraved the name of the ship and the year.

The ship that gets the cup three consecutive years, without taking into consideration the years that its situation does not permit her to take part in the contest, will retain possession of the prize.

ARTICLE 2.—The efficiency prize will have as accessories for the same ship:

(*a*) The efficiency pennant, which will be regulated by the ministry of marine, and which may have special distinguishing marks according to the classification of the services.

The right to use this pennant will last for a maximum of one year, if there is no new classification before the expiration of this period.

(*b*) Annotation in the respective service records of the commander, executive officer, officers and warrant officers of the ship that receives the highest marks. To this end, the ship will present to the direction general of personnel the respective list specifying the services performed.

(*c*) Fifteen days leave of absence to all the enlisted personnel.

ARTICLE 3.—The premium will not be granted if the classification does not reach to one-half of the maximum allowed by the rules of the ministry.

ARTICLE 4.—These rules do not affect in any manner those established for the prizes that the newspaper La Prensa has been giving since the years 1911 and 1917 for the annual target practice, and which are:

(*a*) A silver cup, which will be deposited in the Centro Naval, and will be engraved each year with the names of the ships winning the target practice contests, whatever their category, and even when there are two or more winners of the same prize. The inscription will be: Name of the ship; first prize; battleship or armoured cruiser; year.

(*b*) A gold medal for the gunnery officer of the ship that is winner of the target practice.

(*c*) A pair of binoculars for the spotter of the primary battery of the ship indicated in (*b*).

(*d*) A gold medal, smaller size, for the spotting officer of the 15-centimeter battery of the above-mentioned ship, given by the director of this same newspaper.

(*e*) A silver medal for the gun pointer with the highest classification and which will be determined according to the annual rules of classifying the same.

ARTICLE 5.—Annually there will be assigned to each one of the ships taking part in the contests, to reward the best groups of regattas, rifle shooting and sports; $1,000 for ships of more than 10,000 tons; $500 for ships of more than 3,000 tons; $250 for ships of less than 3,000 tons.

ARTICLE 6.—The ministry of marine will determine the manner in which the classifications and prizes established in Article 5 shall be awarded, as also the ships eligible to enter the competition, depending upon their state of commission.

ARTICLE 7.—The expenses caused by the fulfillment of this decree shall be charged to the section corresponding to the navy budget.

ARTICLE 8.—General Orders No. 41 of 1914 and No. 22 of 1917 and the addition to the Order of the Day No. 255 of 1915 are abolished.

Extra pay for gun pointers and gun captains for the current year, in pesos, per month is to be as follows:

Classification.	Gun pointer of—					Gun captain.	
	Director fire.	Turret.	Intermediate.	Torpedo craft.	Coast fortifications.	Turret.	Intermediate.
First	70	50	30	30	30	50	30
Second	.....	30	20	20	20	.....	.....

AUSTRIA.

METHODS USED TO TRAIN GUN POINTERS.

A continuation of the data obtained from officers of the former Austrian-Hungarian Navy.

In order to train the firing personnel, a percussion gun of 4 millimeters was erected on the training apparatus in the case of the heavy guns, and on the gun chase in the case of the medium and small calibers, and was fired against a target making a combined horizontal and vertical movement within a frame at a distance of about one-half meter in front of the muzzle. Every man qualified in an artillery sense had to fire at least 20 shots a day, and at the end of the month received a reward in money for good results. The target was moved by hand or electric power.

The same small percussion gun was used in practice against small models of ships, towed by a boat. The size of the ships was so gauged as to represent the normal fighting distance when they were towed along the side of the practice ship at about 220 meters.

The second grade in the training comprised practice with larger guns, 8 millimeters, used in the same way. A regular volley (salvo fire) was carried out by using the apparatus for communicating the orders.

The targets, towed at a distance of about 400 to 500 meters, were mounted on floating ways and were of sheet metal, making an audible tone when the projectile or shot struck them. For practice against submarines, these targets had periscopes of 30 centimeters. The practice was also carried out by night with illuminated targets.

The frame in which the guns were mounted permitted the latter to be turned vertically and laterally and was fastened on to the barrel by means of iron bands.

All calibers up to 30.5 centimeters had 7 or 9 centimeter spare barrels which could be shoved into the bore. These were used with 7 or 9 centimeter ammunition. The range plate had a separate scale for these 7 or 9 centimeter barrels and a range up to 4,000 meters could be covered.

The 30.5-centimter guns of the Viribus class had none of these extra barrels, but for this practice the guns were coupled with the 7-centimeter guns on the turret deck by means of a parallelogram rod.

These practice firings were carried out by day and by night.

There was a standard ammunition for each caliber, consisting of a small powder charge and shells, brought to the weight of the normal war shell by a sand filling. Each range scale also had a scale for small charges.

The loading engine served for practice in rapid loading with the medium calibers. This consisted of a rear barrel piece with closing

and a chamber opening to the side so that the shells and cartridges would roll out again. The men executed this practice as a daily sport. Rewards were also given for continuous success.

The target for the firing had a dimension of four times 10 meters and was made of a rough red cloth with a broad vertical white line upon which the black of the target was painted. This was drawn tightly on two rods mounted on a floating way. Two or three of these plates were coupled together and towed on a towline of from 300 to 600 meters in length They could be towed up to a speed of 10 miles. Every battleship carried two or three of these practice targets on board.

BRAZIL.

NAVAL AND MILITARY NOTES.

March, 1923.

A commission headed by a rear admiral has been appointed by the minister of marine to inspect all naval material and ships. The appointment of this commission was brought about by the chief of the naval mission, and the inspection will be made virtually by the naval mission. It is intended to make a rigorous inspection of every ship, of the naval yards and stations, and of all navy material.

Upon the report of this inspection and the report recently made by the officers of the naval mission who were in the Brazilian fleet during its recent maneuvers, will be based the plans for the reorganization of the navy.

It is understood on good authority that the minister of marine has decided to purchase 10 new submarines and that he will probably give the contract to the United States; of these, 7 will be the latest fighting submarines and 3 will be mine layers.

It is proposed to finance this purchase by floating a loan secured by the consular receipts in New York, which are understood to be sufficient for this purpose.

It has been learned that the Brazilian Army has recently purchased from France 120 batteries of four field pieces each (480), 75 centimeters.

This ordnance will be paid for by the money recently appropriated by France to reimburse Brazil for her ex-German vessels.

CHILE.

DIPLOMATIC RELATIONS WITH BOLIVIA.

March, 1923.

Immediately following the ratification of the protocol for the settlement by arbitration of the dispute between Chile and Peru, in regard to the Tacna-Arica question, Bolivia sent a special minister

to Chile for the purpose of attempting to open negotiations for a revision of the existing treaty of 1904, between Chile and Bolivia.

After much exchanging of official notes and many conferences, on March 1 the Bolivian minister and all the personnel of the legation left the city and returned to their own country.

Although it was announced in the public press that diplomatic relations had not been broken, in all respects, so far as Bolivia is concerned, they virtually have been, the legation having been closed and left in the charge of a caretaker, and the Bolivian diplomats " en bloc " making very ostentatious P. P. C. calls on all the members of the diplomatic corps resident in Santiago.

A week previous to the departure of the Bolivian minister, while he was attending a theatrical performance, a demonstration was started against him by some persons in the audience, causing him to get up and leave the theater. On his way out he was met by the mayor of the city who persuaded him to return to his seat in the theater, and thereupon a counter demonstration was started for him. Some excitement was caused in the public press by this incident, and for that reason, previous to his departure, the president of the Republic was most unusually courteous to him.

Naturally Bolivia desires a revision of the treaty of 1904, in order to secure an outlet to the sea, but at the same time it appears that the Bolivian Government seized this opportunity as being an opportune moment to reopen these old questions, on account of the present political conditions within Bolivia itself. During the past few months, there have been numerous abortive attempts at revolution within and without the country, and the present administration was probably actuated as much by the desire to turn the attention of the people of Bolivia away from their internal troubles, rather than of having much hope that they would be successful in their new demand on Chile.

CHILE.

NAVAL NOTES.

March, 1923.

The first civilian aviation school in Chile has just been established by the Curtiss Co. of the United States, in Santiago.

The present equipment consists of but one Curtiss machine brought down from the States; the second machine was smashed in Buenos Aires. The school has not yet commenced operating, and it has its headquarters at the army aviation base in Santiago.

The Chilean Government seems to be offering every facility to the managers of the project, and are encouraging it in every way possible. However, it appears that the project will be a failure due to lack of patronage, the advertisement stating that the cost of the course will be $4,000 per person. It is not believed that there are enough civilians in Chile, who desire to learn to fly, who have this amount of money, to pay the expense for the running of the school.

An opportunity was recently afforded to make an inspection of the newly built torpedo repair station, and stowage station at the navy yard, Talcahuano.

There are about 250 reserve torpedoes kept in stock at this station. It is judged that about 200 of these torpedoes are the Whitehead and the remainder old Schwarzkoff torpedoes now practically useless.

CHINA.

BRITISH ATTITUDE ALTERS TOWARD SUN YAT SEN.

April, 1923.

The following cablegram has been received in Washington:

British authorities, Hongkong, and consul general Canton, heretofore consistently antagonistic to Sun Yat Sen, have reversed their attitude, the former near the end of February giving Sun public entertainments, the latter, at the request of Sun, to whom he had never before spoken, receiving him March 6. Their object is peace in Canton and avoidance future strikes in Hongkong, but they have little confidence in Sun and will not give him any encouragement. Policy seems to be benevolent neutrality. But if Sun succeeds, it is conjectured policy would develop into financial support, which Sun could secure by threat of strikes. Consul general states that Hongkong could not stand another strike.

Sun in very difficult position, having no troops, few efficient helpers, little money, and surrounded by Yunnan and Kwangsi troops, both hostile to him.

Action of Hongkong authorities taken on their own initiative, probably without knowledge of London.

It is learned from reliable and well-informed Peking source that after last year's strike London intimated to Hongkong that better relations with Canton seemed desirable.

Simultaneous with entertainment of Sun, chairman of the Hongkong and Shanghai bank in annual address authoritatively repudiated any interpretation of agreements or policies which attributed to British any desire to hamper Canton harbor and railway developments, which, on the contrary, they would welcome as mutually advantageous.

In Peking Sun is still recognized as a potent force in China.

CHINA.

MILITARY SITUATION.

26 February, 1923.

(Although prepared some months ago, the following report by an official observer in China is regarded as particularly interesting and informative:)

The total of the armed forces in China is variously estimated at from 900,000 to 1,250,000 men. It has been known and reported for a long time that but a very small percentage of this number is subject to the control of the central government, which probably contributes to the support of less than 10 per cent of this total. In addition there are some hundreds of thousands of armed bandits in the country, the distinction between whom and the self-supporting soldiery is hard to draw and is not shown by their long-suffering victims, the agricultural population and small merchants.

The bandits may be grouped in two categories. First: Bandits proper; that is, those groups of armed men operating usually in remote and inaccessible parts of the country who have for generations practiced the gentle art of robbery on the highways of commerce both on land and sea. Second: Those groups of armed men who, having started on a military career as legitimate soldiers, find themselves, by the death or political eclipse of their original leaders, in the situation of military orphans and so forced either to go back to work as cooks or to fend for themeselves as military units. Very few take the former alternative and it involves no great change in their ordinary pursuits for such soldiers to rob and squeeze for themselves and for minor self-appointed leaders instead of for military leaders and tuchuns appointed by the Peking government or by the Provinces, as the case may be.

In addition to soldiers proper and bandits proper and improper, there are in China vast numbers of armed men doing guard duty of all sorts, such as the railway guards that are seen at each station on the railway lines, and the yamen and bodyguards of the countless provincial, district, and county officials of all sorts, civil and military. The railway guards are paid and supported by the railways and are the despair of the foreigners attached to the Chinese railway administration. Their principal function appears to be to turn out and present arms when officials are passing through. This alone keeps them pretty busy, so that they rarely have time to prevent incursions on the line by bandits, though they probably prevent some pilfering of railroad property at the stations and in the freight yards by the civil population. The customs and salt service also have guards of their own,

In general it may be stated that every official who collects money or enforces regulations is backed by a group of men with rifles, and when it is realized that practically every official has to collect not only his own salary, but money to support his guards, plus a tribute to some one higher up for the privilege of holding his job, it is easy to understand what a burden these hordes of armed men are to the long-suffering people of the country.

To return to the army proper, we have endeavored, in view of the absence of control by the central government over the armed forces, to group the military units known to exist in categories depending on the probable political affiliations of their leaders.

From an analysis made as of September 20, 1922, of the distribution of known military units in China, we estimate that the Fengtien Party (i. e., Chang Tso-lin) had then at his disposal some 96,400 troops. It is known that since the hostilities of the spring of 1922, Chang Tso-lin has been reorganizing his forces in an effort to improve their quality. He has given out that he was also reducing the number of his soldiers but his " reorganized " force will probably amount to 120,000 men.

To the Chihli Party we have assigned the troops under the orders of Wu Pei-fu, Feng Yu Hsiang, Tsao Kun, and other minor leaders who have in the past announced their allegiance to that party. The total of all such troops is around 250,000 men, of which number but 70,000 can be said to be under his command in the vicinity of Peking. The rest of the so-called Chihli troops are probably more under the influence of Tsao Kun than anyone else, but his method of exerting control is by political pressure on the subordinate leaders and the measure of his control over the armed forces changes with every turn of the political game. General Feng has announced that he is not in politics and that he will support the government.

The troops of the Chihli Party are stationed in the Provinces of Chihli, Shantung, Honan, Shensi, Hupeh, and Anhwei. The tuchun of Kiangsu is also a professed Chihli Party man and Hunan is theoretically but not actually under Wu Pei Fu's control. For the past three years the tuchuns of Kiangsu and Chekiang have been so fully occupied in watching each other that both have refused to be drawn into any more general movement.

Shansi as a Province leads a life apart under a somewhat despotic but effective tuchun, who is also civil governor. It is, however, the only Province that is free from bandits.

In our September statement we assigned to the Anfu Party, under the leadership of Tuan Chi-jui, some 100,000 troops stationed in Anhwei, Chekiang, and Fukien. Since then the disturbances in Fukien have, among other things, reseated the Anfu leaders Tuan,

Chi-jui, Hsu Chung-chih (Little Hsu), and Li Hou-chi, and the Anfu Party, as such, may be said to have faded out of the picture, although these leaders may be expected to appear again when opportunity offers. The recent disturbances in Fukien, while having various minor aspects, may be regarded as a continuation of the struggle between Sun Yat-sen and Chen Chiung-ming for the control of Kwangtung. Although the military situation in Fukien for the moment is static the final effects of Doctor Sun's establishing himself at Shanghai have not as yet been worked out. Any grouping of military forces in that locality is at present impracticable.

During the past year we have had four civil wars of sorts in China, the theaters of operations being in Chihli, Kwangtung, Szechwan, and Fukien Provinces. Without going into the details of these several military operations it may be said generally that each of these wars was a struggle for political and military control by rival leaders, in the first case of the Peking Government, and in the other cases of the Provinces where the fighting took place.

It may also be asserted that nothing has been definitely settled by this fighting and the contending leaders in each case are preparing to continue the struggle. It is also remarkable that in the two more important wars, the defeated leaders, Chang Tso-lin and Sun Yat-sen, appear to have come out of it if anything stronger than before, whereas the two victors, Wu Pei-fu and Chen Chiung-ming seem rather to have lost face and strength, if not in the fighting at any rate in the political sequel thereto.

Since the Washington conference the question of the disbandment of surplus soldiers has been a plank in all reform programs. President Li Yuan Hung adopted it in his platform on taking office and appointed a commission to consider the subject. So far no actual results have been accomplished. On the contrary, recruiting has gone on more actively than ever. The military leaders assert that they are simply filling vacancies in their units and improving the quality of their forces. The unfortunate fact of this is that some thousands of young men have been taken off the land to be made soldiers, while the discarded material has gone to augment the bandit class.

The bandit situation has gone from bad to worse. Banditry has flourished in China from time immemorial, but it would seem that there is at the present moment less control than usual over the bands of armed robbers. We have recently seen evidences of their power in Shantung and Honan. In the former province, bandits or soldiers controlled by the "outs" seriously interfered with the transfer of Tsingtao from the Japanese to the Chinese. In this case the helplessness of the central government was shown in that it could not

supply arms for the guards sent to police the city of Tsingtao and the railroad, and rifles for this force had to be secured from the Japanese.

In Honan, Wu Pei-fu was unwilling or unable to suppress the bandits although he had some 70,000 troops theoretically under his control, whereas the bandit forces did not number over 10,000. In both Provinces the bandits won their point against the constituted authorities when these latter were finally forced to meet the situation, viz, the bandits secured the enrollment of a portion of their numbers at any rate in the regular military forces or police.

The military leaders in China who have more than a provincial outlook and reputation are Chang Tso-lin, Feng Yu-hsinag, and Wu Pei-fu. Although Tsao Kun has a military status as super Tuchun of Chihli, Shantung, and Anhwei, his activities are political rather than military. Sun Yat-sen has never done anything in a military way.

Chang Tso-lin has the largest and best equipped force in China. He is the only leader, not excepting the central government, who has money in his treasury. He controls his territory and derives large revenues from it, for Manchuria is prosperous and organized. Chang Tso-lin has worked hard on his military forces since his defeat last spring. He has more than made up his losses in men and material and is the only leader that does not have to worry about money and munitions. He is stronger now than ever in a military way.

Feng Yu Hsiang commands the best trained and disciplined force in China. It amounts to about 20,000 men and at present is in the metropolitan area. His announced policy is to support the Government, and he has applied to the Government for pay for his men. It remains to be seen whether the Government will support him. General Feng has been made inspector general of the army with the idea of his putting into effect the president's disbandment policy. As such he has an office at the war ministry, but as yet he devotes most of his time to the training and religious instruction of his troops. By his transfer to Peking he has separated from Wu Pei-fu, whose ablest lieutenant he was. There is, however, no open quarrel between the two. It depends upon future political developments whether they will in the future work together in a military way or on opposite sides.

Wu Pei-fu's influence has steadily declined since his victory over Chang Tso-lin last summer. He has lost his ablest representation in the cabinet, his ablest lieutenant has been transferred from his command, and the recent events connected with the bandit activities in Honan have shown up his lack of control in his own territory. It is probably true that he has been the target of a political campaign

designed to undermine his influence, but he has shown little capacity in combating these influences.

On the whole, I should estimate that the present period of political maneuvering would continue for some months, and its present trend appears to negative the idea that there will be a resumption of the Chihli-Fengtien war next year. The struggle for the control of Szechwan may break out again, but the chances are that some peaceful adjustment of the Fukien troubles will be arrived at. On the whole, I should say that 1923 promises to be an off year for large military operations.

CUBA.

ESTIMATE OF THE MILITARY SITUATION.

21 March, 1923.

I. Strength.

Regular army, active forces, 11,236; reserves to regular army, none; organized reserves, none; unorganized and untrained reserves, 209,000; total military man power, 220,000.

On July 1, 1922, the authorized peace strength of the army was reduced from 17,500 to a maximum of 11,318, comprising 570 officers and 10,748 other ranks. The presidential decree by which the above reduction was effected further provides that the President, governed by the military needs and economic resources of the nation, may increase or decrease the total enlisted men composing each squadron, company, or battery to a maximum of 150 and a minimum of 60; and the squadrons of rural guard to a maximum of 200 and a minimum of 75; provided, however, that the maximum enlisted strength of 10,748 shall not be exceeded.

II. Organization and Composition of the Land Forces.

Regular army.

The battalion is the largest administrative unit in the Cuban Army and normally constitutes the largest tactical unit. Existing regulations, however, provide for the formation of regiments of not to exceed three battalions each, for tactical purposes. The organization of battalions and smaller units corresponds very closely to the organization of similar units in the United States Army.

(*a*) *Combat troops.*—The present authorized combat organization of the regular forces consists of:

Four battalions of infantry, each of a headquarters, four rifle companies, one machine-gun platoon, and one pack train; total, 16 officers and 289 men.

Six tercio tactico (cavalry squadrons), each of tercio (squadron) headquarters, three troops (escuadrones), one machine-gun platoon, one pack train; total, 13 officers and 284 men.

Forty-two troops (escaudrones), rural guard, each of 4 officers and 110 men.

Three battalions coast artillery, each of a headquarters, four companies, one machine-gun platoon, one pack train; total, 16 officers and 289 men.

One light battery (eight 75-millimeter guns), 4 officers and 101 men.

Two mountain batteries, each armed with eight 75-millimeter mountain guns, and consisting of 40 officers and 56 men.

One aviation squadron, 6 officers and 73 men.

Thirteen machine gun platoons of two sections of two guns each, organized as follows: With cavalry, 1 officer and 23 men; with infantry and coast artillery, 1 officer and 30 men.

(*b*) *General staff and services.*—Cuba has only a war department general staff. The chief duties performed by the general staff are those which are assigned in the United States Army to the administrative and supply services of the War Department. The general staff is divided into two main departments, "Direction" and "Administration." Through the department of direction, the chief of staff directs and controls all matters pertaining to organization, training, and discipline. This department is subdivided into seven sections, as follows: Personnel and orders, training, information, public order, inspection, sanitation, and auditing. Through the department of administration the chief of staff directs and controls the administrative services concerned with procurement and distribution of military supplies and disbursement of funds. This department of the staff is subdivided into: The comptroller section, war material section, subsistence and transport section, general supply section, and the disbursing and accounting section.

The sanitary service includes medicine, pharmacy, and veterinary, and consists of 59 officers and 286 men.

One battalion engineers, consisting of headquarters, one railway company (4 officers and 74 men), one sapper and construction company (4 officers and 89 men).

One signal battalion, consisting of headquarters, one radiotelegraph company (4 officers and 89 men), one telephone-telegraph company (4 officers and 89 men).

Military academy (Habana), 11 officers and 49 cadets.

Eight bands, one general staff band of 2 officers and 63 men stationed in Habana; one band of 20 pieces stationed in each of the

military districts, except the Habana district. The bands do not form part of larger units but are assigned to territorial commands.

National guard.

There is no organized national guard or militia. All able-bodied male citizens between 18 and 45 years of age are subject to call for military service in time of national emergency. The President decides when such call shall be made, the organization of the militia draft, period of enrollment of officers and men, also pay and allowances of the drafted forces. Regulations now exist for the organization of the national militia in the event that such call shall be made.

III. Equipment and Supply.

Individual equipment.

The arms and equipment of the individual soldier are practically the same as issued to United States troops. Small arms and personal equipage, except clothing, are obtained through the United States Ordnance and Quartermaster Departments. The active forces are armed with the new (U. S.) Springfield rifle and Colt pistols and revolvers. Ten thousand Krag-Jörgensen rifles, reported in good condition, are held in reserve storage for use in case it should be found necessary to organize and equip the militia to meet an emergency.

Organizational equipment.

(*a*) Machine guns are of Colt model, caliber .30. It is estimated that the total number on hand does not exceed 75.

(*b*) Artillery guns; the numbers, makes, and calibers of artillery guns now in the Cuban Army are as follows:

8	Schneider-Canet field guns (1910)	75-mm.
16	Schneider-Canet mountain guns (1910)	75-mm.
3	B. S. Company field guns	3-inch.
2	Maxim-Nordenfelt R. F. guns (English make	57-mm.
4	Maxim-Nordenfelt R. F. guns (Spanish make)	57-mm.
8	Howitzers (Spanish make)	21-cm.
12	Ordenez rifles (Spanish make)	15-cm.
2	Ordenez rifles (Spanish make)	24-cm.
2	Ordenez rifles (Spanish make)	30.5-cm.
6	Krupp rifles	28-cm.
2	Krupp rifles	30.5-cm.
4	Naval guns (formerly U. S. Navy rifles)	6-inch.

All of the artillery cannon of over 75-millimeter caliber is of obsolete pattern. The most modern pieces are the four 6-inch former United States Navy guns; these are about 35 years old.

(*c*) Aviation equipment at present consists of four Curtiss planes. Purchase of 10 additional airplanes has been under consideration for some time, but until the financial condition of the Government is

materially improved it is not probable that any additional equipment will be acquired.

(*d*) Engineer and signal equipment is similar to like organizational equipment in the United States Army but of older model and pattern. Practically no reserve of technical equipment exists.

(*e*) Transportation equipment; the army is adequately supplied with both motor and animal drawn transport. The railway net of Cuba is well adapted to meet the needs of military supply to all parts of the island. Even in the most remote coastal regions a road haul of 50 miles would be exceptional.

Reserve supplies.

(*a*) Ammunition; the present reserve of ammunition is estimated as follows:

		Rounds.
New Springfield rifle, caliber .30	per rifle	150
Krag Jorgensen rifle, caliber .30	do	70
Colt's machine gun, caliber .30	per gun	33,000
Colt's pistol and revolver, caliber .45	per piece	30
75-mm. field and mountain guns	per gun	300
3-inch field guns	do	100
57-mm. rapid fire guns	do	20
21-cm. howitzers	do	125
15-cm. rifles	do	250
24-cm. rifles	do	250
30.5-cm. rifles	do	250
28-cm. (Krupp) rifles, 30.5-cm. (Krupp) rifles, 6-inch naval rifles	per gun (miscellaneous)	90

Normally the infantry and cavalry organizations, including rural guard troops, are equipped with 300 rounds of small-arms ammunition per man. Of this amount 90 rounds are issued to the individual soldier and the remainder is held in local or organizational reserve.

(*b*) Individual and horse equipment; limited quantities in storage remaining from large reserve supply obtained in 1921. Exact amounts not known.

Munition works.

No essential war munitions are manufactured in Cuba, and no facilities exist that could be converted in time of war into munition factories.

Articles of uniform and clothing sufficient to meet the needs of the present forces are tailored in the army supply shops located in Habana, but the necessary cloth and other materials are imported from the United States.

Methods of supply.

Procurement and distribution of equipment and general supplies, including subsistence, are centered in the office of the chief quarter-

master, who is a member of the department of administration, war department general staff.

In the procurement and distribution of supplies to meet current needs, the chief quartermaster is concerned with the acceptance or rejection of bids, designation of consignee, and local points of delivery. Supplies necessary for immediate use are consigned normally to district quartermasters direct from points of origin. All reserve supplies are consigned to and held in storage in the quartermaster storehouses in Habana. Issues from the general reserve are made only on order from the chief quartermaster.

District commanders, through the agency of their respective district quartermasters (line officers detailed), are charged with submission of proper requisitions for supplies in compliance with war department instructions issued from time to time, and for the local distribution and supervision of issue within their respective commands.

It is not contemplated that the employment of the army in active field operations in the event of an emergency would involve any material change in established methods of supply.

Hospitalization.

(*a*) Military hospitals: Cuba has one general hospital of about 200-bed capacity, located near Camp Columbia, Habana. Each military district is provided with hospital facilities for about 20 beds, exclusive of field hospital equipment with organizations.

(*b*) Civilian hospitals: Habana City, normal bed capacity 7,400; expansion in bed capacity to meet emergency or war requirements, estimated total, 9,120. Distributed among all the larger provincial towns, normal bed capacity, 1,900. It is estimated that this number can be increased in time of great emergency to a total of 2,100 beds. Forty per cent of the hospital facilities located in the city of Habana are owned by Spanish social organizations; these are well equipped and are generally very efficient in their operation. The remaining civilian hospitals are operated by Cuban personnel and are generally to be found ill equipped and poorly operated.

IV. Training, Discipline, and Efficiency.

Provisions for training.

The fundamentals of military training in the Cuban Army have as their basis the doctrines and principles of training issued from time to time by the United States War Department.

Training regulations and the periodic programs of instruction issued thereunder are excellent in character and scope. Careful attention is given to the elementary instruction of recruits. Schedules of garrison training, to include the school of the battalion, demonstrate a thorough understanding of sound principles of training, and correct appreciation of progressive steps in scope and methods.

The following schools for the individual instruction and training of the army at large are located at Camp Columbia: Medical school, veterinary school, armorers' school, farriers and blacksmiths' school, motor transport school, aviation school, and the school of application of the Cuban Army. The school of application is Cuba's most advanced military school. The course covers a period of one year and embraces technical and general professional studies for infantry, cavalry, and artillery officers. From among the more promising graduates of this school are selected officers to send to the special and general service schools in the United States. Graduates of United States military schools are employed as instructors at the military academy and the school of application.

Condition of training.

While provisions for training are excellent, the systematic execution of programs and schedules of training has been seriously neglected. In garrison routine, barrack duties, military courtesy, and parade-ground drill and maneuvers the army is well trained. Field training has been entirely neglected, and tactical work of any nature has received only negligible theoretical consideration. The infantry and cavalry are fairly well trained in the use of their weapons, but the artillery has had no target practice since 1915.

The discipline, morale, and general efficiency of the Cuban Army were affected adversely and to a very serious extent by the corrupt political and financial conditions of the island culminating in the election frauds of 1920, when a serious revolution was narrowly averted. During 1921 conditions in the army were bad. Financial graft and political intrigue were not uncommon, even among the higher officers. Military preferment and advancement were openly sought and frequently gained through personal influence of politicians. These conditions, and the attendant uncertainty as to future prospects, brought about a serious state of neglect of military duty and responsibility, with consequent lowered efficiency throughout the army. During the first half of 1922, political activities on the part of army personnel were suppressed and slight improvement accomplished in training and routine duties. The inability of the Government to make prompt payment to troops, and for a few months the suspension of payment on account of lack of funds prevented any material improvement in the morale and general efficiency of the troops. The closing months of 1922 and the opening months of the current year have brought about marked changes for the better throughout the army. Troops are being paid regularly, and recent disbursements have covered all back pay due. Politics have been eliminated from the army, and adjustments incident to the reduction

of the army on July 1, 1922, have resulted in important changes in assignments of higher territorial and unit commanders.

Under present conditions a continuation of present improvement in morale and general efficiency is to be expected; and it is believed that as the number of Cuban graduates of United States military schools increase, we may expect corresponding improvement in tactical field training in the Cuban Army.

V. Present Fighting Value.

The individual soldier takes a keen interest in his personal appearance, his uniform and equipment, and the manifestation of discipline and military courtesy. Proficiency in movements of precision and parade ground maneuvers, and pride in exactness of execution are readily acquired and zealously practiced.

Having gained proficiency in garrison duty, target practice, and close-order drill, the average Cuban solider feels that his education is complete and that the drudgery and discomforts incident to proficiency in field training are superfluous and unnecessary. The utter neglect of actual field training has tended to confirm this attitude in the rank and file of the army.

The Cuban Army as a whole is fully prepared to carry out its primary mission of internal security against serious revolt or public disorder. It is in no sense trained or otherwise prepared for campaign involving even minor tactical operations against well-trained troops.

VI. Distribution.

The territory of Cuba is divided into eight military districts. Two of these districts are situated in the immediate vicinity of Habana and are in reality only small reservations. The remaining six districts have boundaries coincident with those of the six provinces.

The strategic distribution and assignment of the army in time of peace is based on a sound conception of the chief mission of each of the principal components of the army. The 42 troops of rural guard constitute the "first line" assignment. This force is distributed in "troop" units throughout the six provinces or outlying military districts, for the purpose of guarding the rural inhabitants against outlawry and the prompt suppression of local disturbances or disorders outside of towns and villages.

The six regular cavalry squadrons (tercio tactico) constitute the "local reserve." One squadron is normally assigned to each of the six provincal districts and support the rural guard forces within the respective districts when the latter unassisted are unable to cope with a situation.

The remainder of the combat forces form the general reserve with permanent station in and about Habana.

VII. Mobilization.

According to the 1919 census the total male population of Cuba of native or acquired citizenship was 1,166,000; of this number 543,000 (46.55 per cent) are estimated to be between the ages of 18 and 45 years. Allowing 50 per cent rejection on account of physical defects, there remains 271,000 estimated physically fit for military service. Of this latter number a further reduction is necessary to provide sound able-bodied men for certain essential industries and to cover exemption of government officials and employees other than military and naval personnel; a liberal estimate of numbers necessary for these purposes would leave 220,000 physically fit native Cubans available for active military duty.

Under the provisions of the Platt amendment the United States guarantees the autonomy of Cuba. As a natural consequence the strength and composition of the army is based on national requirements for maintenance of public order and prompt suppression of civil disturbances. No plans exist, and none are known to be contemplated, looking toward the mobilization of the total available man power for defense against a strong invading force. Provisions for limited military expansion are provided in the organic law by authorizing the President to increase the strength of existing units, and to order the enrollment of national militia by voluntary enlistment or draft in such numbers as he may deem necessary to meet a particular situation.

The plans for mobilizing national guard units are based on the existence of a situation so serious in character and extent as to menace the national welfare and which would require the employment of the active army on field duty. The peace time stations thus vacated by the regular forces will be utilized as mobilization and training centers for the newly organized national guard units. The actual mobilization, organization, and training of the national guard units are placed under the immediate control and direction of district commanders. While undergoing training, these units may be utilized for local guard duty and protection of important points and localities.

VIII. Cuban Navy.

Strength.

The actual personnel strength of the Cuban Navy on February 1, 1923, was: Commissioned officers, 132; petty officers, 12; enlisted men, 807; a total of 144 officers and 807 enlisted men. The authorized strength under existing laws is 140 officers and 1,000 men. Cuba has no naval reserves or organized naval militia.

Composition—Ships.

One light cruiser of 2,055 tons displacement; one training ship of 1,200 tons; 12 gunboats of tonnage varying between 80 and 450 gross; and 4 submarine chasers of 77 tons each. The fastest boats are the cruiser and submarine chasers, with a cruising speed of 18 knots per hour. The majority of the gunboats have a cruising speed of 12 knots.

Efficiency and morale.

The discipline and general efficiency of the personnel of the navy suffered in like manner as the army during the recent years of disordered political and financial conditions. During the past few months some improvement has been effected, but the inadequacy of appropriations prevents any real accomplishment in the realm of practical seamanship and gunnery, or the maintenance of vessels and equipment in condition to meet even the requirements of station training.

Distribution.

The national policies of naval defense that underlie the present organization, strength, and distribution of the Cuban Navy are based on cooperation with the Navy of the United States on the north littoral and in the Gulf and Caribbean waters. Under the provisions of the Platt amendment the Cuban Government and people look to the United States for naval protection against a foreign power. The peace-time distribution is therefore in accordance with local and domestic conditions. The main mission is the prevention of smuggling and coast patrol duty.

IX. Naval and Coaling Stations.

The navy has a warehouse of general supplies at the Triscornia Naval Station, Habana, and a small supply base at Cayo Coco, port of Cienfuegos.

Naval coaling stations, supplied from local mines: On the north coast, Puerto Esperanza and Cardenas; on the south coast, Batabano, Cienfuegos, and Manzanillo. Commercial coaling facilities are available to the navy at Habana, Caibarien, and Antilla on the north coast; and at Guantanamo and Santiago de Cuba on the south coast.

X. Present Fighting Value.

Approximately two-thirds of the navy vessels are built of wood; and half that number are nearly 30 years old. The only vessels of recent construction are the four submarine chasers (wooden hulls) built in the United States in 1918.

The heavier armament consists of two 4-inch guns mounted on the light cruiser; six 3-inch guns, two on the training ship and four on

one of the larger gunboats; the remaining armament consists of small caliber guns varying between 37 and 57 mm. inclusive. Due largely to inadequate appropriations, but few of the vessels are in first-class condition. Extensive overhauling and repairs are necessary before the Cuban fleet could be considered in seaworthy condition.

GERMANY.

A CONVERSATION WITH THE OFFICER WHO COMMANDED THE R–34 ON THE TRANS-ATLANTIC FLIGHT.

March, 1923.

This officer, who is a major and now in charge of the inactive airship station at Pulham, England, where three rigid airships under the control of the civil department of the air ministry are housed, arrived in Berlin on March 11 and left on March 18 on his return to England via Friedrichshafen. This visit to Friedrichshafen, in so far as can be determined, has no connection with the airship *ZR–3* but is for the purpose of discussing a business arrangement with the Zeppelin Co. The British member of the air guarantee commission is a close personal friend and admirer of the major and is primarily interested in the development of the former's rigid airship project in England.

The major came to Berlin primarily to investigate the possibilities of the Boerner semirigid 300,000 cubic meter airship project. His visit was requested by Mr. Boerner, who lives at The Hague, Holland, and came himself to Berlin. Mr. Boerner's project is now in the hands of several German engineers who are perfecting the details of the design of this airship. A complete report of this airship project is now in preparation and this report will include a copy of Major Scott's opinions.

This officer is the brains back of the Burney scheme for the operation of rigid airships on a route from England to Egypt and India with an extension to Austria. Commander Burney, the champion of this airship project, is the inventor of the paravane, this latter invention netting him a considerable fortune during the Great War. A number of other official Englishmen are interested in this project, including Sir Allen Anderson of the P. and O. steamship line, and a number of active members of Parliament. Perhaps the greatest interest, however, is shown on the part of the Admiralty, which has come to recognize that the cheapest and most effective means of patrolling and keeping open the sea lanes of the British Empire in the future lies in the great airship. These airships will operate commercially in time of peace and carry passengers and mail from Eng-

land to the Orient and Australia in one-third of the time that is now required. High British authorities have come to realize that rapid transport is necessary to successfully hold together a wide-spread empire. The air ministry now have control of airships but have failed to make use of them, and airships may revert to the Admiralty where they undoubtedly belong. The air ministry will of course oppose any change as they wish to retain control in spite of the fact that their policy has always been largely dictated by military and not naval officers and has therefore failed to appreciate the fundamental naval value of the airship. The British press has for some time evidenced the fact that the air ministry is displaying great interest in airships.

The major has recently been in Spain and in touch with the Herrara airship project for operating a route between Spain and the Argentine. Senor Herrara is an aide-de-camp of the King of Spain. This project has the support of the King, and certain funds have already been made available by the Parliament. The Zeppelin company is back of the scheme and have worked out all the details. It contemplates the construction of Zeppelins in Spain, as the Versailles treaty prevents ships of this size being constructed in Germany.

He has also just returned from Norway, where he has been interviewing certain Norwegian interests which are desirous of establishing a summer airship service between England and Norway. Such a service would be auxiliary to the projected England-Orient-Australia service. An audience was had with the King of Norway.

Herr Director Colsmann of the Zeppelin company came to Berlin during the officer's stay and arranged for the visit to Friedrichshafen to confer with Herr Doctor Eckener, who is the Zeppelin official vested with the authority to transact business with foreign interests. The major desires an arrangement with the Zeppelin company for their technical assistance in building rigid airships in England. He states, however, the British will go ahead with or without Zeppelin assistance. The Zeppelin company seems to be more ready to cooperate with other airship interests than they have been in the past, as they appreciate their financial position is not sufficiently strong to undertake commercial airship development alone. He stated that during one of his conversations with Doctor Colsmann the latter stated that the Zeppelin company was in no hurry to complete the *ZR–3*, now building for the United States Navy, as they feared the completion of this airship meant the demolition of their large shed. While this statement is not in accordance with the impression the Zeppelin company officials give us to believe, a certain amount of importance should be attached thereto; as, unless a change in the attitude of France toward Germany takes place, it seems reasonable

to expect that the French would insist upon the demolition of this shed.

The Burney plan, so far as can be ascertained, contemplates the operation of a rigid airship of about 5,000,000 cubic feet, while the Herrara project contemplates a ship of about 4,500,000 cubic feet. The characteristics of the two types are very similar in design, performance, and arrangement. Cost figures also seem to check most closely. The British have estimated the cost of building six airships of this type to be about £180,000 each.

GERMANY.

DAMAGE CONTROL.

The subject of damage control as exercised by the German Navy in the World War is both instructive and interesting. Its importance has, of course, been recognized by the various bureaus of the department, and by the officers afloat who are assigned to ships in positions of greatest responsibility, such as captains, executives, and heads of departments. It is considered, however, that the questions of how to keep the ship in the battle line while taking punishment from the enemy, and of how to keep her afloat in the case of serious damage, are of sufficient importance to merit the attention and consideration of all naval officers.

The following article has been prepared with a view to bringing the subject to the wider attention of the service. Some of the material has only recently been obtained from abroad, and the remainder has been received at various times during and since the war.

As will be seen, nothing in the nature of an exhaustive treatise has been attempted.

(A)

REPORT OF A FORMER NAVAL OFFICER OF THE AUSTRO-HUNGARIAN NAVY REGARDING DAMAGE TO GERMAN AND AUSTRIAN WAR VESSELS DURING THE WAR, AND THE REPAIRING OF SUCH DAMAGE.

During the war I had frequent opportunities as construction director of naval arsenals in Pola of seeing and repairing ships damages by military action, or of inspecting same. Of special interest in this connection was the opportunity which I had in May, 1916, of examining the ships of the German fleet after the battle of Skagerrak, as a member of a commission which, upon the invitation of the German Navy, was sent to Kiel, Wilhelmshaven, and Hamburg in order to inspect the damage done in the battle, and watch the repair work carried out.

It is interesting to review hurriedly the manner of construction of the German ships, which I consider very perfect and complete, on account of the extensive subdivisions into water-tight compartments and the arrangement of the armor, the conning towers, and turrets, and also the arrangements for combating leaks (damage control). This subdividing into the smallest possible compartments was carried so far that each boiler had its own room and its own water-tight bulkhead companion way. The water-tight bulkheads had no connecting doors and the subdivisions in the fore and aft part of the ship were especially strong.

Along with the bulkhead arrangement by means of longitudinal bulkheads, every cross section was divided into three compartments, which is an important factor in preventing list, as there were no central longitudinal bulkheads. The outer longitudinal bulkhead on the ship's side was developed as a torpedo bulkhead; besides this the wing passage bulkhead was also a protective agent. The newest German ships also had two armored diagonal bulkheads in the fore and aft part of the ship, as a protection against explosions from fore and aft, and for the steering and anchoring gear and the ammunition chambers. These bulkheads represented an increased factor of safety against leakage or flooding of the rooms located behind, for cases have occurred where damaged ships (although still able to move) have been sunk because the diagonal bulkheads could not withstand the pressure of the water entering through the leak, and one bulkhead after the other has given way (*Lutzow*). The bulkheads were also so arranged that (taking security into consideration) the docking keel would serve to take the high pressure; that is, that the longitudinal bulkheads lay over the docking keel. The upper armored decks were built in the upper coal depots and armored bulkheads were made in the gun citadels. The efficacy of these armored bulkheads was evidenced by the fact that the destructive effect of a shell penetrating through one side of a ship did not extend over half the side of the ship outside of the narrow ends of the ship where both ship walls were penetrated and the armor plate torn from the inside. In the middle of the ship, the effects of the shell were not noticeable beyond the width of half the ship. The ordinary German method of connecting the side armor with the armored deck was probably inspired by the effort to connect the armor plate well with the outside, under the water line, but this arrangement has many disadvantages, as it transmits the shock of the shell from the side armor to the frame of the ship. Another result of this division into compartments is the additional weight. The German ships all have an insufficiently strong frame work, something to be remembered in the new con-

structions; the German ships have already reached, if not exceeded, the limits to which reinforcements and increasing of speed may be carried out, at the expense of the strength of the ship's frame.

After the Battle of Skagerrak, the damaged vessels were immediately sent to the shipyards at which they were originally constructed (Wilhelmshaven, Kiel, Hamburg) so that the repair work would be in the hands of the most trustworthy and experienced workmen.

Twelve hours after the battle each of the shipyards in question was in receipt of the necessary instructions giving a general description of the damage, and in this way they were in a position to have the necessary workmen on hand (altogether 15,000 to 20,000 men) as well as all the necessary material such as sheet metal, armor plate, etc.

Since most of the ships were damaged in their vital parts under the water line, either from submarine torpedoes or shells, it was always necessary to put the ship in dry dock. This was not difficult owing to the presence of a large number of floating docks, and owing to the German methods docking on the docking keels was always a very simple and easy and rapid operation.

In this way day and night work could be arranged and undertaken without difficulty on all parts of the ship and propeller.

In spite of repeated hits, the armored decks were never damaged and none of the large ships were lost as the result of shells, mines, or torpedoes. The loss of the *Lutzow* was due to other causes.

The armored torpedo bulkhead, although damaged in many ways and no longer water-tight, had fulfilled its purpose and, together with the minute water-tight subdivisions and the ample freeboard, prevented the loss of the ship.

The serious damage on the *Seydlitz*, whereby the ship tipped to the head, had no further results. The leakage on the *Ostfriesland*, caused by a mine explosion, was not so serious as it might have been, as the water went into one of the ammunition chambers lying amidships, which increased the quantity of water entering the ship but also prevented any listing, as the water was divided in such a way that the stability of the ship was not affected.

Leakage arising as a result of hits above the water line is explained by the fact that the comparatively weak framework of the ship was rendered nonwater-tight by the hits and was deformed in such a way (bulged, bent) that water entered in other places. Then it also happened that water went from one room to the other through openings in the bulkheads, such as cables, pipings, etc. A special form of underwater leak was the indirect bulging of the outside plating, caused by shells falling short and striking in the water near the sides of the ship and bursting the seams or joinings in the outside plating.

During the war this occurred on the Danube, where the Serbs were unable to sink any of the Danube vessels through direct hits, but did sink some through shells falling in the proximity of the sides of the ships. The resultant water pressure opened the outside plating, which let water into the ship and sank it. A similar example happened in Pola, where an aerial bomb falling in the water near the side of the ship and exploding caused a leakage in the ship through the same causes.

The Germans repaired the damages to the armor plate in various ways. There were either substitute plates on hand of the same form and thickness or new ones were obtainable from Krupp in Essen or substitute plates of approximately the right form and thickness (or even of another thickness) were used. These supply pieces were held in place by means of sheet metal, fish joints, etc.; all intervening spaces were filled with cement or wood.

Even though this method of repairing was only an improvised and provisional one, the repair work on the body of the ship was final and definite and absolutely first class in workmanship.

Many armor plates had to be removed because some of the metal backing had to be repaired. After such repair work was finished the plate was replaced.

In many cases the bolts holding the plate were too short, and in tearing loose the plate fell off and new ones had to be put on.

Many plates were thrown out of position through the force of the impact. When this occurred with the joggled or wedged plates on the barbettes, it was difficult to remove the plates. The joggled barbette plates were wedged against the adjoining plates and the joggles and foot angles loosened. In the free turrets on the upper deck the Germans were careful to sink the barbettes into the deck so that they were very firm and the strain was taken off the foot angle. The armor plates of the side armor were joined together by joggles, so that the lighter plates were braced by the heavier and the armored surface in its entirety evidenced greater continuity and adhesion.

The selection of very large plates running from the edges of the armored deck almost up to the upper deck or battery deck, and having a weight of 38 tons, also increased the efficacy of the plate. On the other hand, the bolts of the plate were somewhat too short and as a result often tore out and the plates were lost. In many cases where the plates had suffered little damage and had repulsed a heavy shell, the backing gave evidence that it had yielded and had taken a part of the shock.

Such deformations of the backing could be taken as an evidence that same had yielded under the strain, consequently this showed a

weakness of the backing. On the other hand, this was an advantage, as in the case of a violent impact the plates themselves would not have remained intact but would have shattered if the backing had remained stiff and rigid. However, these deformations of the backing always resulted in leakage, even when the bending of the metal of the backing prevented the destruction of the plate itself. From the above it is quite evident that plates that were outwardly intact had to be removed in many instances only to be able to get at the backing to repair same. By using large plates one had the advantage of larger masses which could better support the force of the projectile, and also of a larger surface area, which increased the area over which the backing exerted its effect. The Germans also fastened the teak-wood backing onto the plates instead of to the ship, which made it easier to remove the plates, as the wood came off with the plate. As the largest possible plates were used, the largest possible sheet metal was also taken for the backing (3 tons heavy), which had a number of advantages. The longitudinal bulkheads as protection against submarine torpedoes (torpedo bulkheads) were 40 millimeters thick, 9 meters long, and 4 meters high, weighing 12,000 kilograms. When possible, these bulkheads were continued up under the upper deck and formed an admirable reinforcement of the ship's body and an effective conjunction between the upper deck and the bottom of the ship, as cross section construction between the upper and lower rider plates of the main girder. These bulkheads were located directly above the docking keel, and in this way assured a solid and firm support in the dock.

The German ships had a second and weaker armored bulkhead on the side, parallel to the above, which formed a longitudinal dividing wall. Reserve coal was stored between the two bulkheads. There were two diagonal armored bulkheads in the fore part of the ship as extensions of the longitudinal bulkhead, and two others in the rear part of the ship as a protection for the ammunition chambers and the steering and anchor machinery.

Besides the armored deck, the upper deck was also covered with heavy sheet metal. The necessity for this is comprehensible when one considers the number of hits falling on the deck, and in the future this will probably be even more acute as aerial bombs seem destined to penetrate the decks. In Pola, in 1918, an anchored ironclad was struck by an aerial bomb, which penetrated three decks and only exploded on impact with the armored deck without penetrating same. German naval officers attached great importance to the development of armored protection and preferred to sacrifice some of the speed to save weight in machinery rather than to sacrifice the armor protection to the machinery.

The armored gratings proved very advantageous as the splinters from the shells falling in the funnels were caught by the gratings and this prevented serious damage to the machinery. Armored gratings were also put in the curves of the armored decks and in the top of the upper deck. These gratings were iron bars, 135 millimeters high and 15 millimeters thick, and were arranged at right angles at a distance of 60 millimeters from one another.

The German ships made extensive use of coal as a protective agent, and great attention was devoted to the subdividing of the coal rooms. Reserve coal was stored along the machine rooms toward the front up to the ammunition rooms, and the latter also had reserve coal stored along the sides, according to the size of the ship. The reserve coal was stored between the longitudinal torpedo bulkhead and the outer longitudinal bulkhead and was very difficult to get hold of. The coal in the rooms under the armored deck was distinctly separated from that above the deck. Each group had its own inlet and outlet tubes. The supply was first taken from the upper depot and when this was emptied, the lower one was used.

Naturally the ships taking part in the battle of Skagerrak suffered the most and the repair work made the very greatest demands on the shipyards. However, thanks to the spirit which existed, the work went on well, and one month after the battle, four of these ships were again out on the water and the other four were all ready to leave the dock.

For the most part, the single hits affected the territory of about five to six beams. Most of the damage was localized in the intermediary space between two diagonal bulkheads. Athwartship, the damage did not extend beyond half the width of the ship. Any penetration occurred on the narrow ends of the ships. The armored deck, although repeatedly struck, was never penetrated, whereas the upper and lighter deck was often struck and badly demolished. On account of the good, solid connection between the various parts of the ship, the effect of the shells was diminished through being distributed over a large area.

The numerous leaks due to direct and indirect hits were not to be prevented in any way. However, they had no catastrophic results, as they were all localized through the careful bulkhead subdivisions, and owing to the perfect functioning of the damage control, they were always soon under control.

The Germans devoted their principal attention to keeping the ship buoyant, and they took all possible measures to keep the ship afloat as long as possible.

The damage inflicted by the various shells varied according to the size of the shell; the watertight bulkheads withstood the effect of

the explosions as well as the water pressure in the case of leakage, and it was only in the case of direct hits or where some very serious damage was done to some other constructive parts of the ship that the bulkheads gave way; in most cases the sheet metal burst away from the rivets; it was very seldom that the rivets and screws gave way. The process employed on the Austrian ships of screwing the two layers of the armor plate together instead of riveting them, in order to prevent the riveted parts from separating, was found by German experience to be superfluous.

It is fundamentally difficult to preserve the buoyancy of a ship during a battle and is a highly important matter, because, as already mentioned, even indirect hits or shells falling in the proximity of the sides of the ship, can cause very serious leaks. (See sketches I, Nos. 9, 10, 11, 12; III, No. 4; IV, No. 7; V, Nos. 1–5; VI, Nos. 2–4; VIII, Nos. 16–17; VIII, No. 19.)

Recognizing the importance of the water-tight bulkheads, these had been built as strong as possible; the diagonal bulkheads were supported by the longitudinal bulkheads in two places, and reinforced by an horizontal girder, located a little below the center and running into the longitudinal girders. The few water-tight doors were guarded by sentries, but there were no water-tight doors in the main bulheads.

No pipings or pumps were damaged during the battle; the damage control was directed from the central station which had telephone and vacuum tube connections with the upper deck and all the requisite rooms.

Another point to be noted on the German ships is the extensive subdivisions in the ammunition rooms; first into two stories (the shells below and the powder above) and each of these divided in turn into about six rooms which were never opened simultaneously but used one after the other so that in the case of explosions or fire, only one portion would be affected.

The flooding of the ammunition rooms was arranged like a floating dock with outer and inner and distribution valves. During action, the outer and inner valves were open; the distribution valves were only used when necessary.

One instance in which the results were unpleasant after the battle, was that in which the kitchens were destroyed (sketch VII, No. 9) so that no food could be prepared for the crew. However, so-called emergency depots had been arranged at various places beforehand, so that this helped out to some extent.

Besides the body of the ship itself, the ventilating arrangements also suffered greatly. There occurred instances in which the ventilation canals were shot through, making a very undesirable connection

between rooms. In one case water and in other cases, poisonous gases from the explosions penetrated into the rooms where the men were. In another instance, the men were overcome by poisonous gases from the boiler and those who had not put on gas masks, died from the effects.

Owing to the above facts, the ventilation system was entirely shut off during a battle or only emergency ventilation employed. However, the lack of fresh air threw the gyro compasses out of order so that they would not function.

In order to prevent poisonous gases reaching other parts of the ship through the medium of the speaking tubes, the mouth pieces were filled with wet sponges which kept the poisonous gases out but were not thick enough to shut off the sound.

The German ships all had trimming tanks exclusively. The absence of the trimming keel also made it easier to put the vessel in dry dock.

No damage was ever done to the steering gear.

Great damage was done to all the appliances, etc., installed on deck, such as capstans, cranes, nets, searchlights, etc. After a battle none of the ships could use the projector, and it was only possible on a very few of the ships to carry out the net and anchor maneuvers. The nets hung overboard and formed a continual menace for the propeller.

In the interior of the ship the shocks of the shell impact damaged the pipings and electric cables in some instances. The cables were very often struck by shells or shell splinters and were torn. On board the *Seydlitz* all orders had to be given from the rear commanding station as the front station was flooded and the cable broken.

There was only comparatively little damage done to the machinery, really not more than was done in the course of an especially arduous trial trip (hot shafts, etc.). The entire service functioned well, and when the armored deck (the most important protection for the machinery) remained intact the most serious dangers were removed, in so far as the machinery was concerned.

The commanders of the German ships were all satisfied with the form of construction employed. However, in any future ships they desire more extensive armor protection and an even greater subdividing through water-tight bulkheads, especially at the extremities of the ships.

It is a well-recognized fact that attention must be paid to the sinking of the ship owing to loss of buoyancy and also to sustaning the stability. A counter flooding is much simpler when the end cells are smaller.

The German commanders felt certain that their ships would remain afloat even when struck by two or even three heavy submarine shells.

Any efforts to render the ship unsinkable can only be taken in the case of very large displacements, and can never be considered absolutely reliable. The counter measures depend on whether it is a question of torpedoes or mines, etc. Therefore a ship constructed to withstand the shells used in 1909 is wholly inadequate of combatting the modern weapons of 1918. It is therefore quite comprehensible that the *Istvan*, designed in 1909, had not greater resistance in 1918.

The accompanying sketches show the German ships as they appeared after the Battle of Skagerrak. These sketches were drawn partly on the basis of personal inspection of the damage on board the vessel itself, and partly from sketches made by the German shipyards and furnished the commission for inspection.

These sketches only show the most important hits; for example, the *Seydlitz* had more than 25 hits and the *Derfflinger* more than 30, but the lighter and less disastrous were not indicated.

The English shells were repelled in 13 instances; in 16 cases they damaged the armor and backing and made holes in the sides of the ships; and in 18 cases they penetrated the armor and backing and exploded in the interior of the ship, causing tremendous damage and loss of life.

Leakage occurred in all three cases, both below and above the armor deck. Some few of the shells which penetrated into the interior of the ship did not explode (Sketch VI, No. 3). In several instances (Sketches VIII, Nos. 4, 19; VI, No. 1) the armor plate was loosened from the ship entirely, or from the inside (VI, No. 1; VIII, No. 4–19) by a shell penetrating from the opposite side of the ship. According to the statements of the German commanders, the English shells would have created much greater damage if German ammunition had been used.

All the vessels were able to make their bases without assistance, as all the nautical apparatus such as steering gear, communication system, signals, etc., as well as the machinery, were in good functioning condition and there was sufficient stability. Of course, the searchlights were either badly hit or entirely shot to pieces, but on account of the short and clear nights they were easily dispensed with.

The conning towers proved satisfactory not only from the point of view of construction but also of appointments. The apparatus for transmitting orders, each mounted on a separate stand (free from the armored wall), withstood well the shocks of the shells and all was still in good functioning condition after the battle.

There were no instances of inner explosions, as only very small quantities of ammunition were held in readiness in the batteries and turrets.

The damage to the artillery was considerable; for example, the front turret on the *Seydlitz* was entirely destroyed, but the fire or explosions did not extend to the adjacent rooms, as all the German ships had very effective measures for protection against blazing flames.

The results of the enemy fire on the artillery itself could not be ascertained to the same extent as that in connection with the purely technical question of ship and machinery construction.

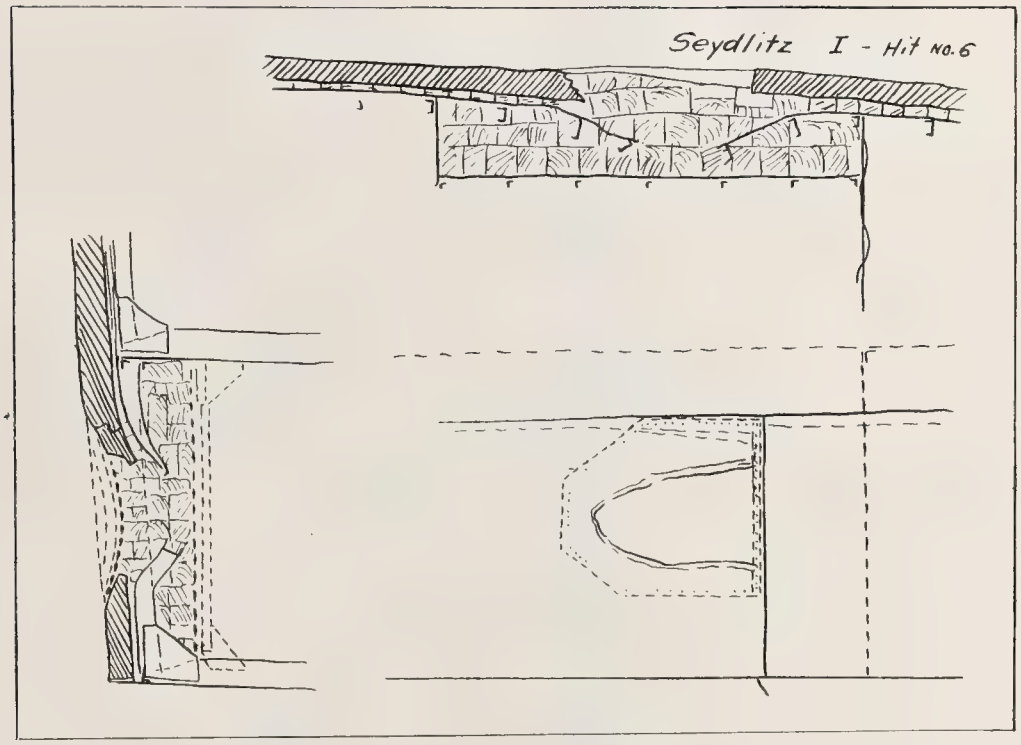
(B)

SKETCHES OF DAMAGED GERMAN SHIPS, WITH EXPLANATORY NOTES REGARDING THE VARIOUS HITS.

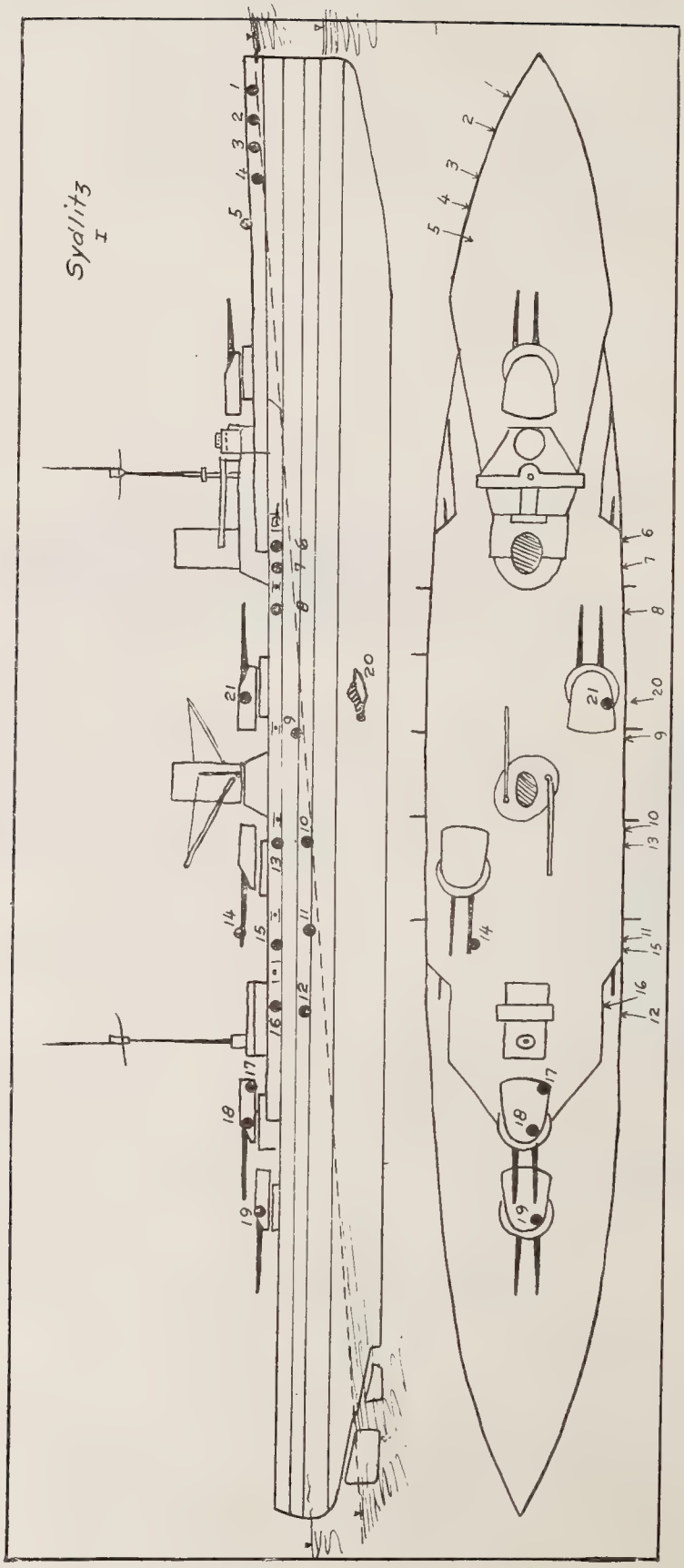
Source of information the same as for (A).

The effects of the hits which were actually identified on the ships themselves or through the statistics of the German naval organs may be classified as follows:

Leakages, floodings, etc., 21 cases (out of 106).
Heavy armor hit in 47 cases (out of 106).
Shells repulsed, 13 cases (out of 106).
Light hits, 23 cases (out of 106).
Severe damage to body of ship, 15 cases (out of 106).



40211—23——5


Syallits
I

I. "SEYDLITZ," IN DOCK.

Hits 1, 2, 3, 4, light hits against the front part of the ship; bow, capstan, capstan shaft damaged, body of ship damaged.

Hit 5, against the deck; outside wall of hull damaged.

Hits 6 and 7, gun citadel; two decks and framework of ship damaged.

Hits 8 and 13, citadel.

Hits 9, 10, 11, 12, against side armor; shells striking in proximity of water line, pressure transmitted to outside plating under water, bulging of the outside plating.

Hit 14, against starboard gun turret III. Chase deformed (bulged); shell thrown off.

Hits 15, 16, citadel.

Hits 17, 18, 19, against gun turrets, 19 thrown off.

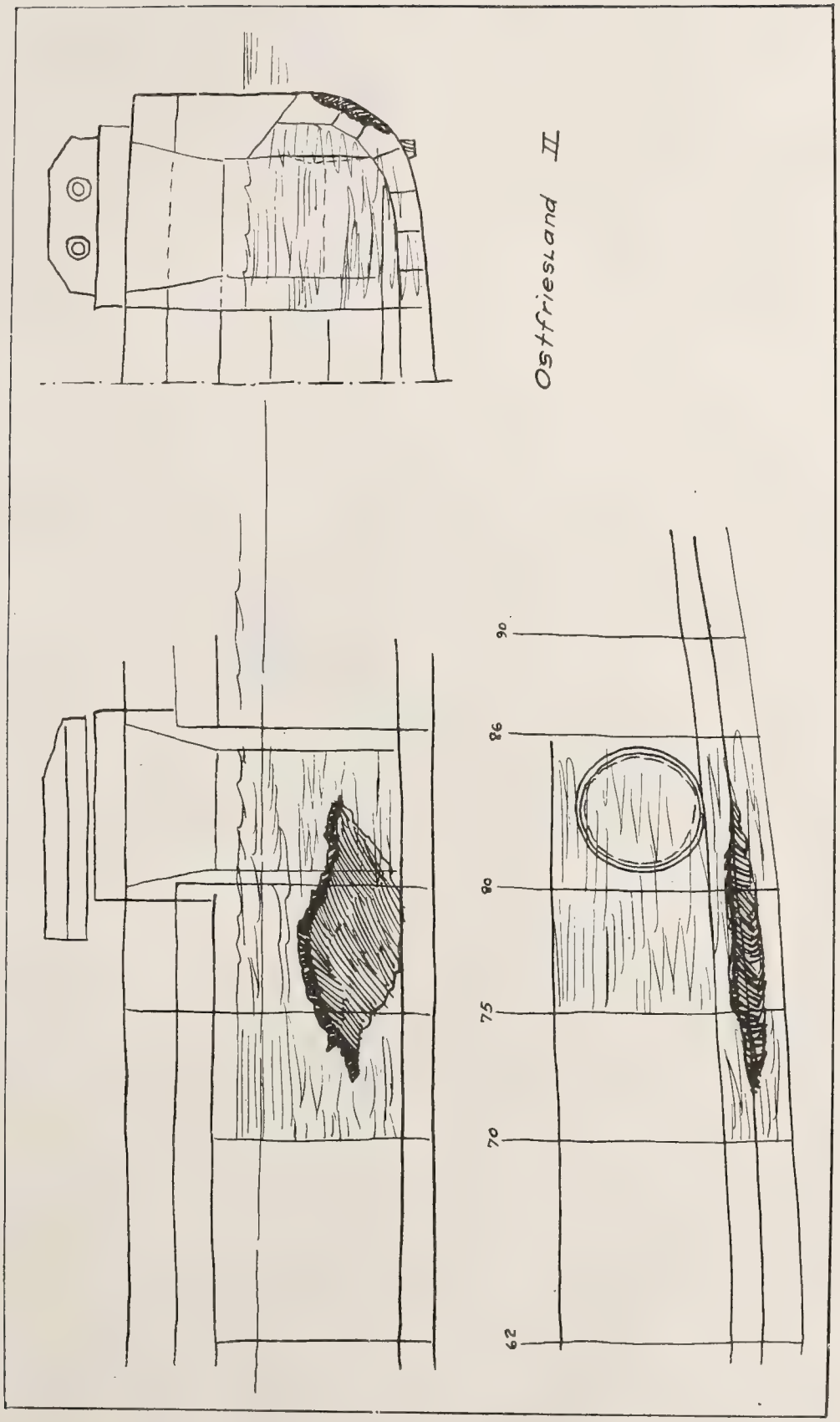
Hit 20, submarine. Outer plating and armor plating damaged to the side of the boiler room; plating torn open, adjoining bulkheads damaged, water entered through small nonwater-tight places (cable tubes, pipings) up to the front boiler, then stopped by pumps. Alteration in trim as result of this hit, ship dipped in front almost to deck.

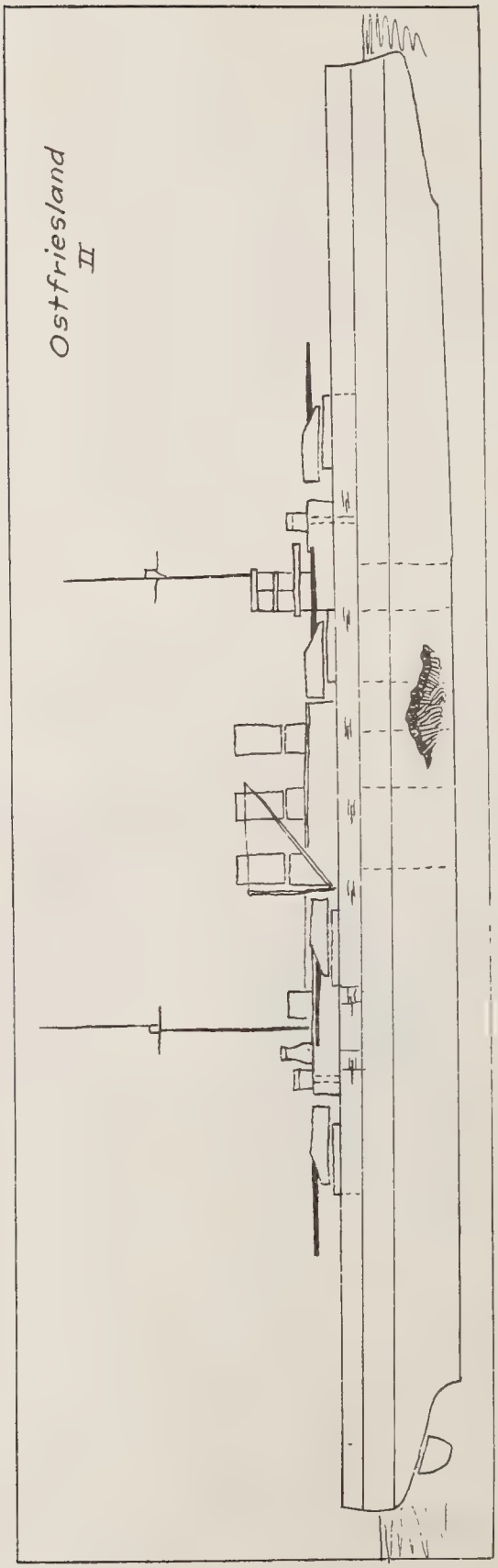
Hit 21, against the top of second turret, movable portion opened, point penetrated.

Hits 22 to 25, insignificant hits against protective nets, deck erections without causing any great damage.

Additional information obtained by the Admiralty from interrogating German prisoners after Jutland.

The battle-cruiser *Seydlitz* is practically a wreck. She either ran ashore on German coast or sank in shallow water. She has, however, been salved. Of the whole superstructure there is nothing left; the decks were swept clean. The *Seydlitz* is a battered hull.


Ostfriesland II
90
86
80
75
70
62


Ostfriesland
II

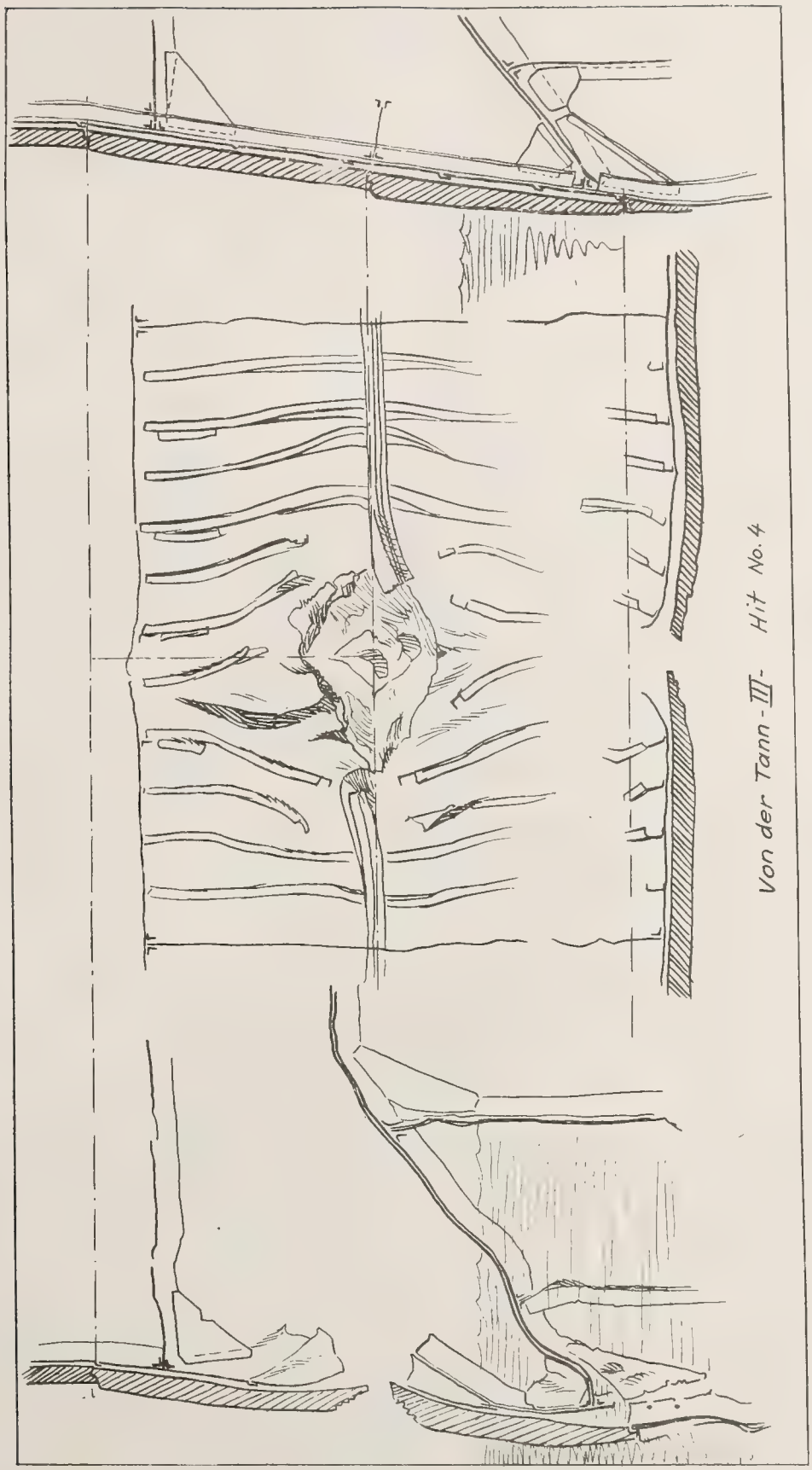
II. "OSTFRIESLAND," AFLOAT.

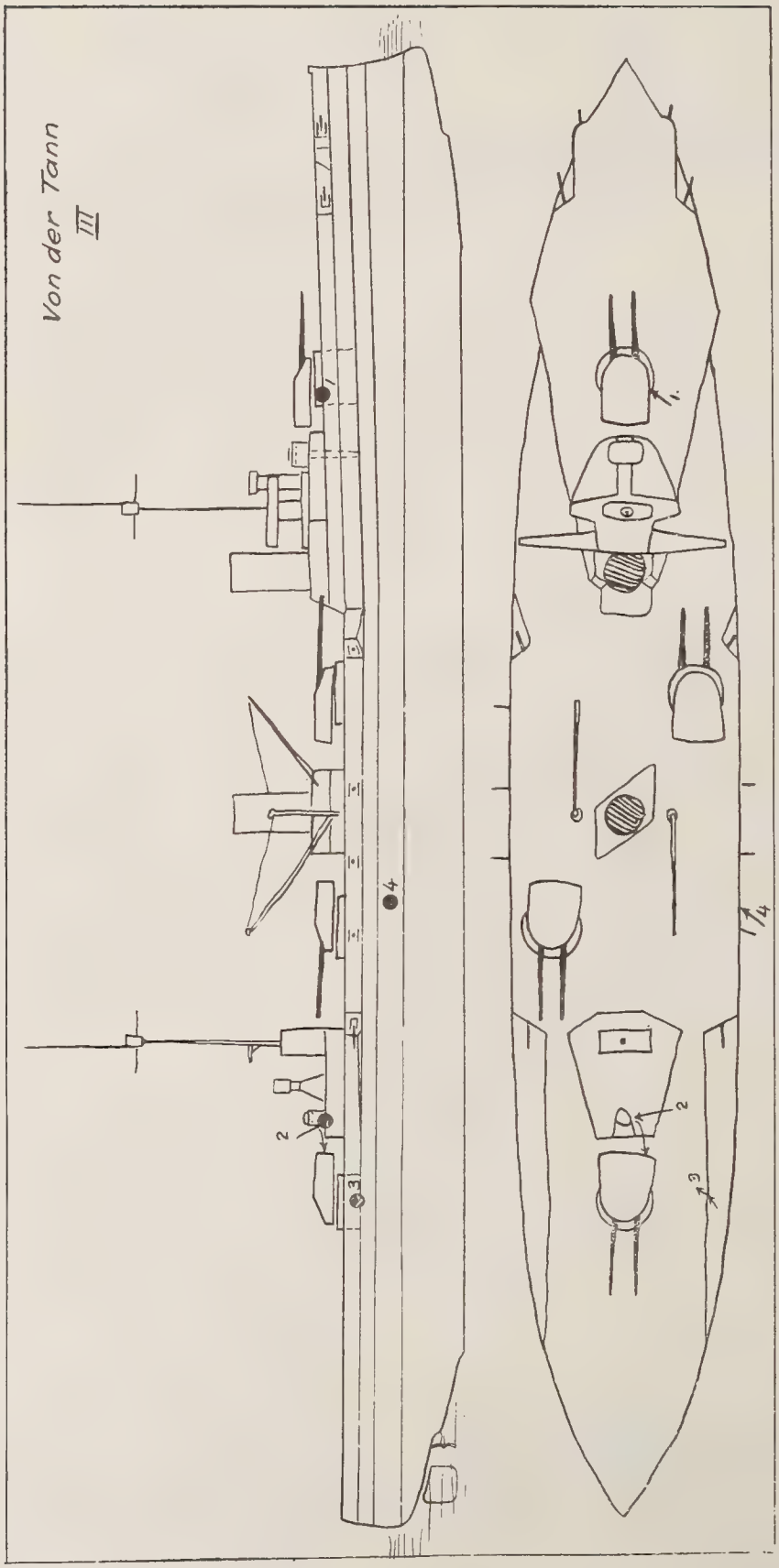
Struck under water, causing great leak (12 to 4½ meters), 800 tons of water entered ship. Boiler room intact. Torpedo bulkhead opened; water entered ammunition depot.

Information obtained from prisoners.

This ship ran on a mine and was very badly damaged. A hole about 42 feet long and 26 feet high was torn in her starboard side under turret B. The magazine was flooded, but only one man was killed.

She was further damaged by gunfire, the fore bridge being shot away and the bridge personnel killed.


Von der Tann - III - Hit No. 4


Von der Tann
III
1.
2
3
4
1/4

III. "VON DER TANN," AFLOAT.

Hit 1, against front barbette. Barbette opened, damage arising therefrom repaired by placing pieces of plate in front of the damaged parts.

Hit 2, against the conning turret and metal construction; shell repulsed, splinters struck against IV turret.

Hit 3, against the outside wall of the ship and the deck; shattered on substructure of turret; three-fourths of the ship's frame construction badly damaged.

Hit 4, against the side armor; three plates struck at junction, one plate damaged, two plates shifted, no splinters found. Body of the ship badly damaged, leakage, armored deck and outer plating leaky, bulged, etc.

Information obtained from prisoners.

The *Von der Tann* was hit by five heavy shells, all on the starboard side, in the following positions:

1. The front armor of the foremost turret was penetrated. The shell burst in the well below the gun, lifting the gun out of its cradle. The whole turret was put out of action by this shot. Eight men were severely burned, but no one was killed.

2. Another shell hit the engine room ventilating trunk between the mainmast and the after conning tower. The splinters killed a few men.

3. A shell demolished the after conning tower, carrying away half of it. Lieutenant Commander Rocktuschel (can not be traced in German Navy list) and three men who were in the conning tower at the time were killed.

4. The side armor was penetrated abreast the aftermost turret on the level of the battery deck. This shell then passed through the armored deck and exploded in the vicinity of the turret ammunition hoist. In accordance with standing orders, the magazine and shell room were at once flooded, and in about 30 seconds the water had risen to a depth of some 4 feet in these compartments. The magazine and shell room parties communicated with those outside by tapping, and the flooding valves were then closed.

5. The fifth shell penetrated the side armor below the water line right aft under the foremost of the two after 22-pounder gun mountings. Splinters flew upward, bulging the decks and destroying the mounting of the 22-pounder gun. (The forward and after 22-pounder guns themselves had been removed some time before the action.) The stokers' quarters (situated right aft) were flooded. A splinter also caused considerable damage in the canteen situated on the battery deck.

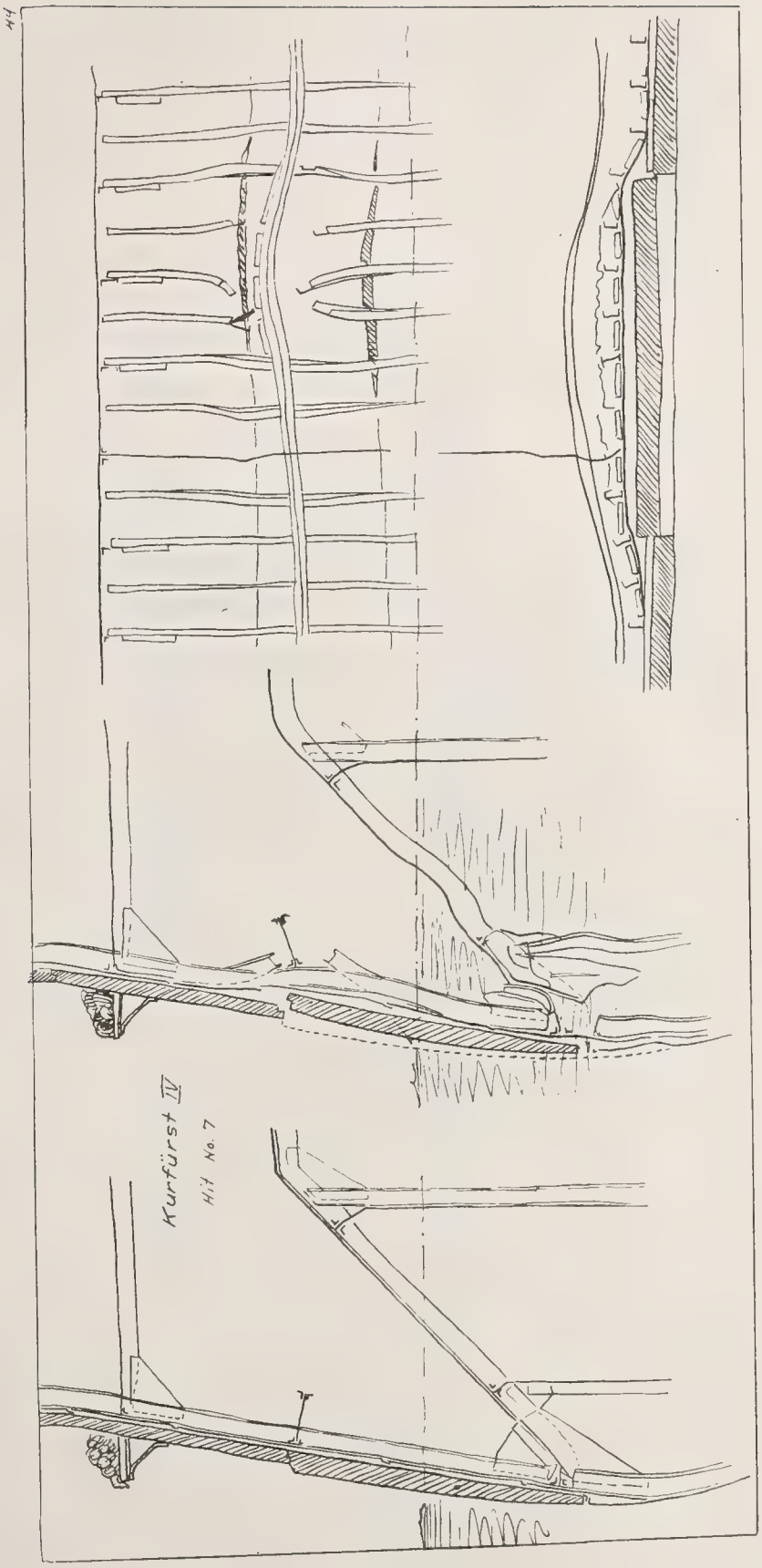
The total casualties amounted to 16 or 18 killed and 27 wounded.

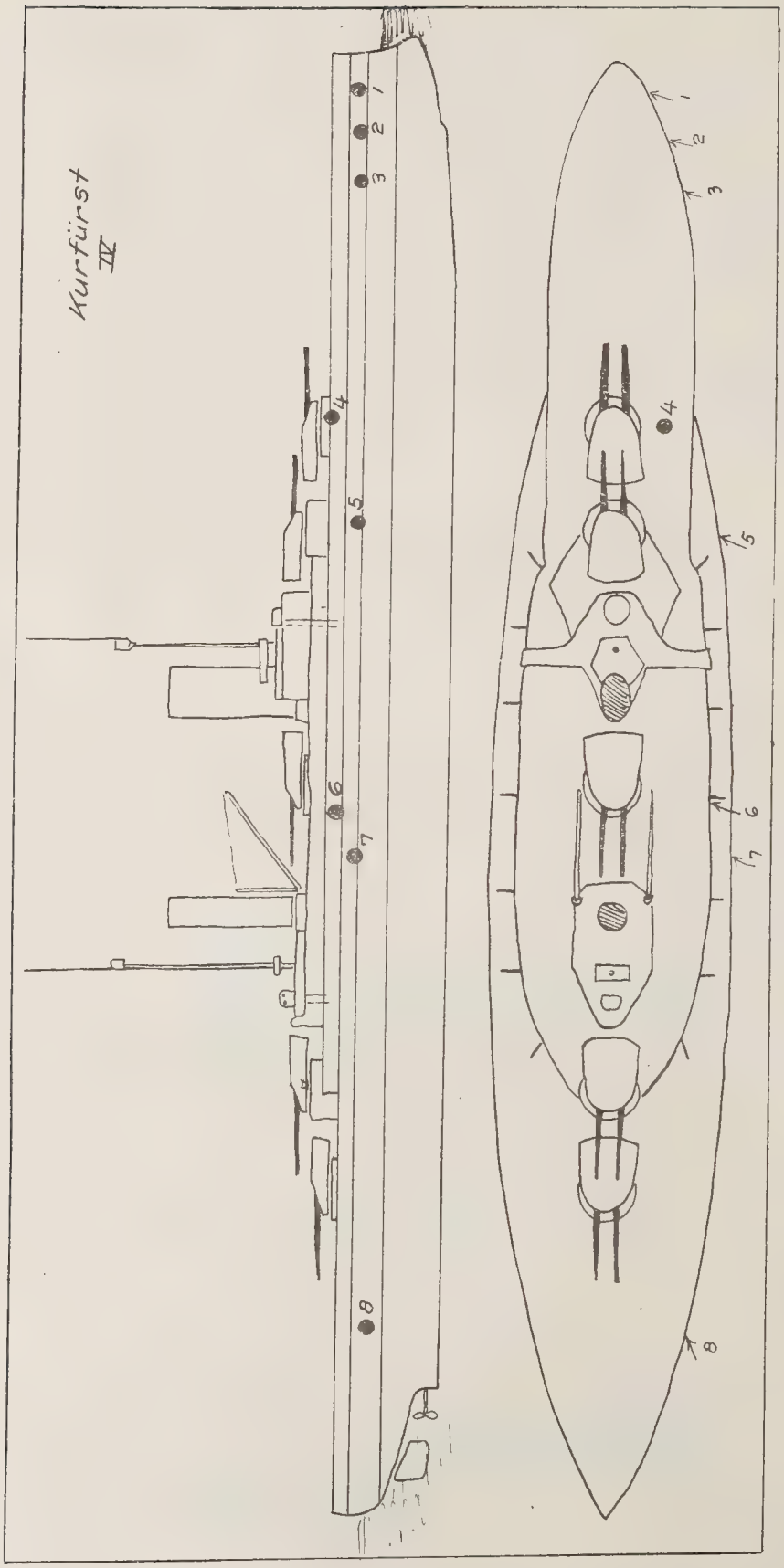
The *Von der Tann* appears to have sustained comparatively little damage. Three hits were located approximately by the prisoner on a plan of the ship. One of them was obtained high up between the

after turret and the rear side of the after conning and control tower. Splinters from the shell passed through the slits in the latter, causing several casualties, including a lieutenant commander, who subsequently died of his wounds. Another shell exploded below the after turret on the armored deck, without penetrating the latter. The turret was put out of action for about 20 minutes, the training gear being jammed. The turret's crew succeeded in cutting away the damaged plate which had caused the jamming, and brought the guns into action again. No further damage of importance was done by this shell, but three or four men were killed. The third shell hit the ship's side well aft, above the armored deck, about over the propellers. It exploded in a locker, but did not cause any casualties as that part of the ship was not occupied at the time. A number of splinters from shells exploding in the water close to the ship riddled the funnels.

Total casualties: About 10 killed, 20 to 30 wounded.

The necessary repairs to *Von der Tann* were completed within six weeks.


44
Kurfürst IV
H.V No. 7


Kurfürst
IX
1
2
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6
7
8

IV. "KURFÜRST," IN DRY DOCK.

Hit 1, against front part of ship; armor plates and body of ship damaged.

Hits 2 and 3, capstan demolished, plates changed.

Hit 4, against deck and substructure of turret; upper deck and battery deck torn apart, substructure of turret damaged, bosom piece of the turret casing with the deck melted.

Hit 5, against the side armor plate; armor plate and longitudinal bulkhead penetrated.

Hit 6, against under sill of citadel; deck and ship's construction damaged, deck destroyed.

Hit 7, full hit; shell repulsed, plate remained intact, a large part of the ship's construction deformed, leaky, armored deck and outer plating bulged and out of shape.

Hit 8, against the side armor plates; splinters against the ship.

Information obtained from prisoners.

The *Grosser Kurfürst* was hit by four heavy shells on the port side.

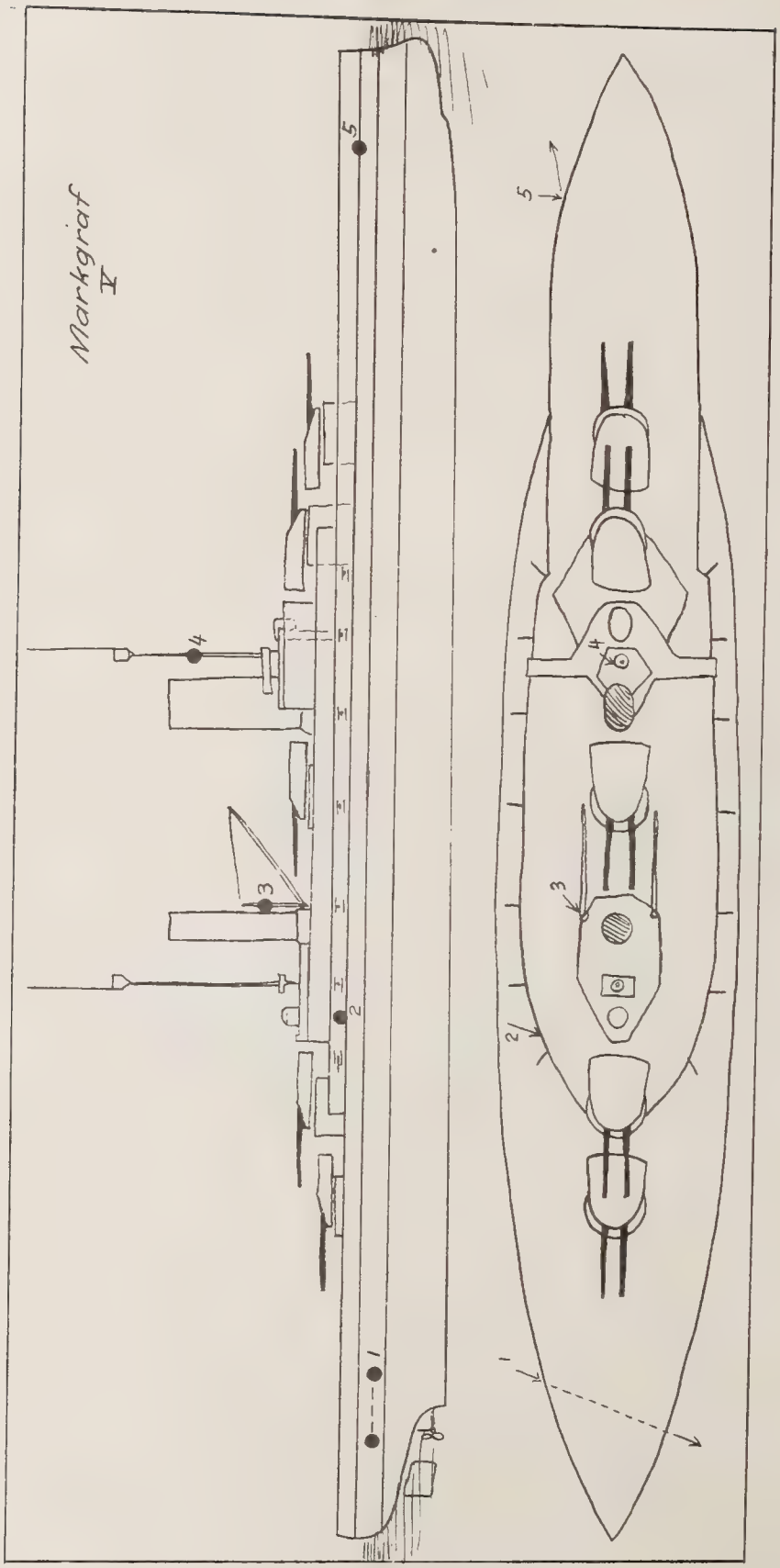
1. The first, a plunging shell, hit the upper deck abreast the foremost turret and penetrated two decks. Informant believes that this projectile did not explode.

2. Another shell penetrated the battery armor abreast No. 2 turret, traveled downward through the battery and main decks, and exploded above the armored deck, killing several men. The armored deck was not penetrated by fragments.

3. A third shell passed through the side armor below the level of the battery deck, slightly before the second funnel, and exploded in the bunkers, killing one man.

4. The side armor was penetrated a third time by a shell which entered on the level of the battery deck between the after conning tower and the after superposed turret. Informant believes that this shell put one 5.9-inch gun out of action, killing the gun's crew.

The total number of casualties was 15 killed and 18 wounded.


Markgraf
II
5
4
3
2
1

V. "MARKGRAF," AFLOAT.

Hit 1, against the side of the ship in the vicinity of the water line; ship shot through; outer plating under the armored deck bulged and rendered leaky; leakage.

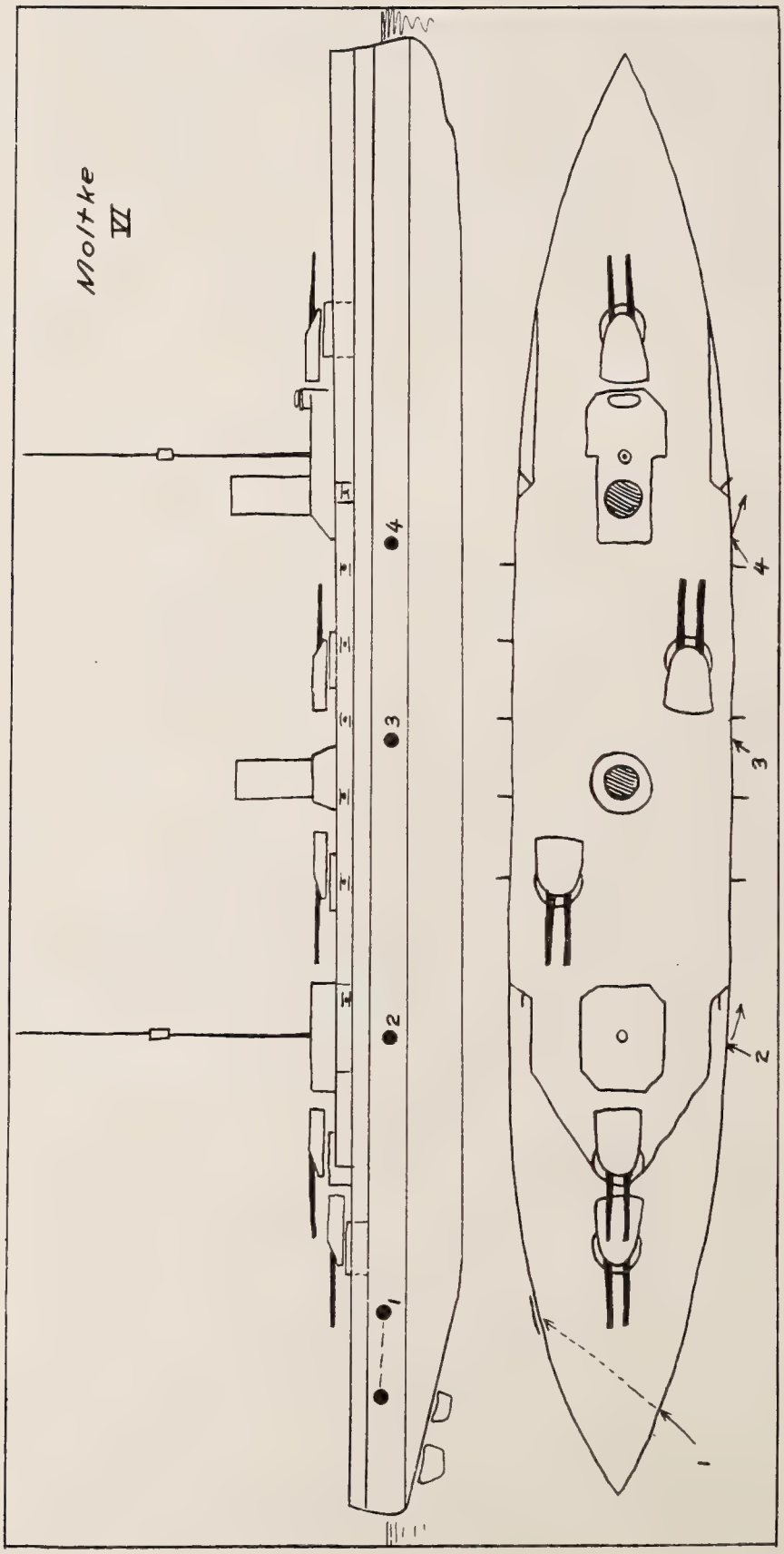
Hit 2, against the side of the citadel, armor penetrated; repaired by addition of plate; deck penetrated; 3 square meters of plating (planking) demolished.

Hit 3, against the boat's crane; could still be used.

Hit 4, against the mast; no damage done.

Hit 5, against the front part of ship; shell repulsed.

40211—23——6


Moltke
VII
1
2
3
4

VI. "MOLTKE," IN DRY DOCK.

Hit 1, against the outside plating; exploded in interior of ship; extensive damage in interior; splinters struck side of ship toward the port and tore out a large armor plate; this fell off together with the bolts; substitute plate attached; armored deck hit without damage.

Hit 2, against side armor; shell repulsed; submarine metal construction damaged; leakage; backing behind rider plate and framework damaged; plate out of place; removed and, after body of ship was repaired, was put back in place again.

Hit 3, against side armor; armor penetrated; shell remained in coal depot.

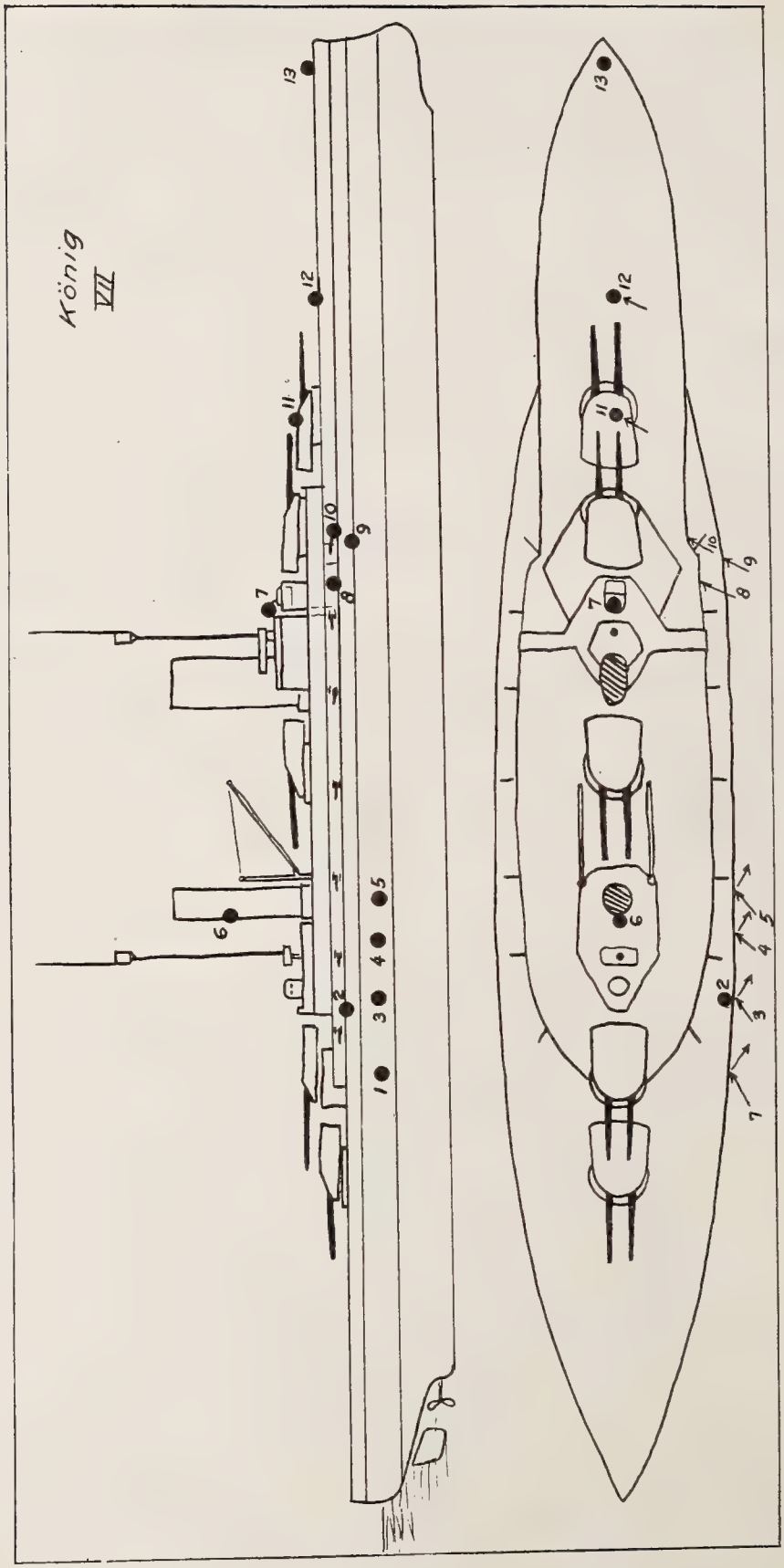
Hit 4, shell repulsed as in case of hit 2.

Information obtained from prisoners.

1. The *Moltke* had a hit that tore away part of her stern and opened up some of her compartments so that some of her deck at the stern was awash, yet she was brought in successfully.

2. Another hit on the *Moltke* penetrated one of the after turrets and ignited powder in the handling rooms. The magazine of this turret was flooded by the men from outside and the magazine crew was drowned.

5. On board the *Moltke* a piece of an American shell fired from a British ship was discovered which greatly incensed not only the officers and men on that ship but on all others of the fleet when it was noised about.


König
VIII

VII. "KOENIG," FLOATING IN WATER.

Hits 1, 3, 4, 5 struck against side armor; repulsed.

Hit 2, against upper deck; demolishing of torpedo protective net; longitudinal bulkhead bent and torn; upper deck torn open; battery deck bulged in.

Hit 6, against funnel; searchlight demolished.

Hit 7, cover of conning tower grazed.

Hit 8, against citadel; two guns demounted; great damage on the inside.

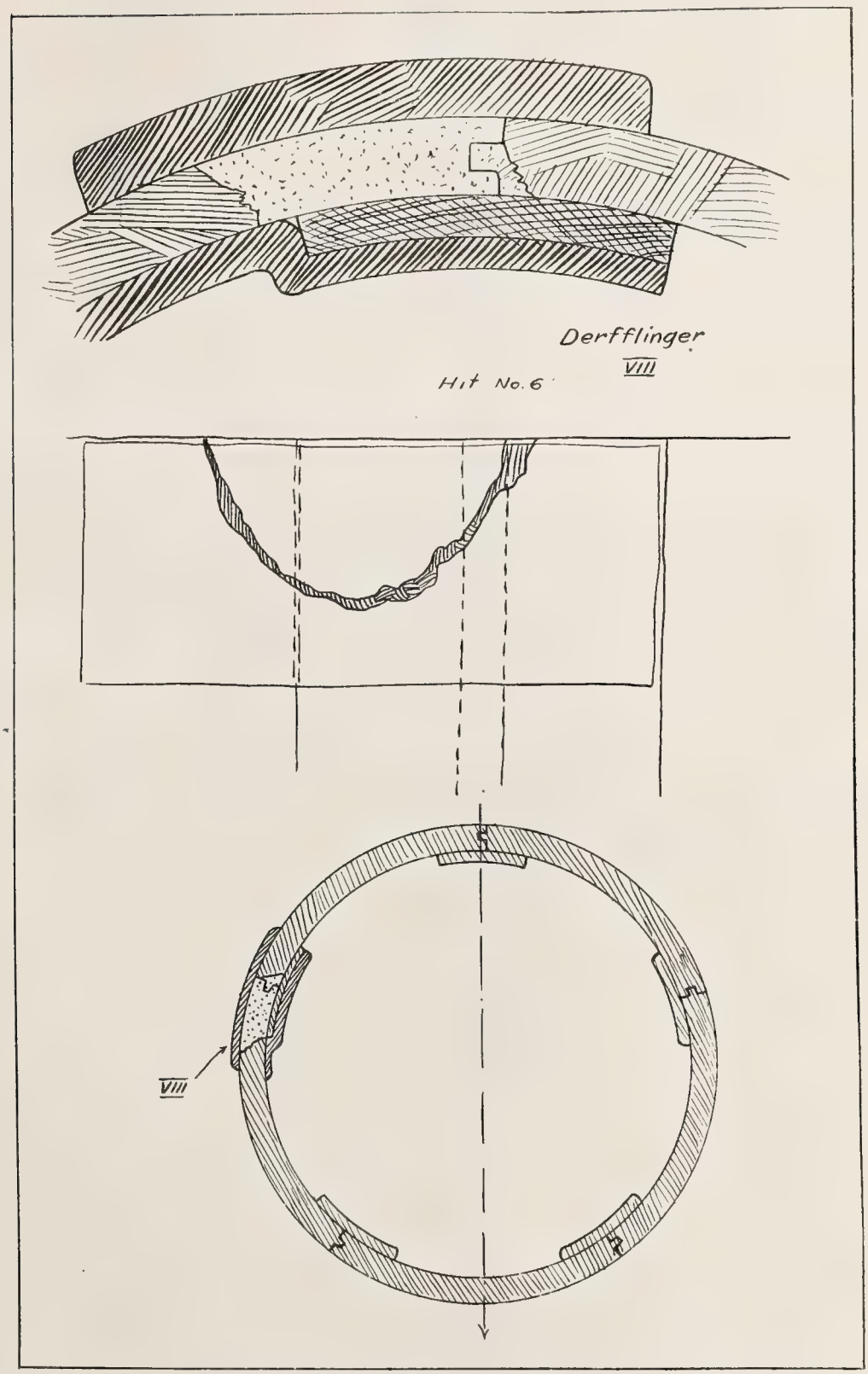
Hit 9, longitudinal bulkhead penetrated; galley stove demolished; poisonous gases penetrated into the boiler room; side armor penetrated; repaired with pieces of plate.

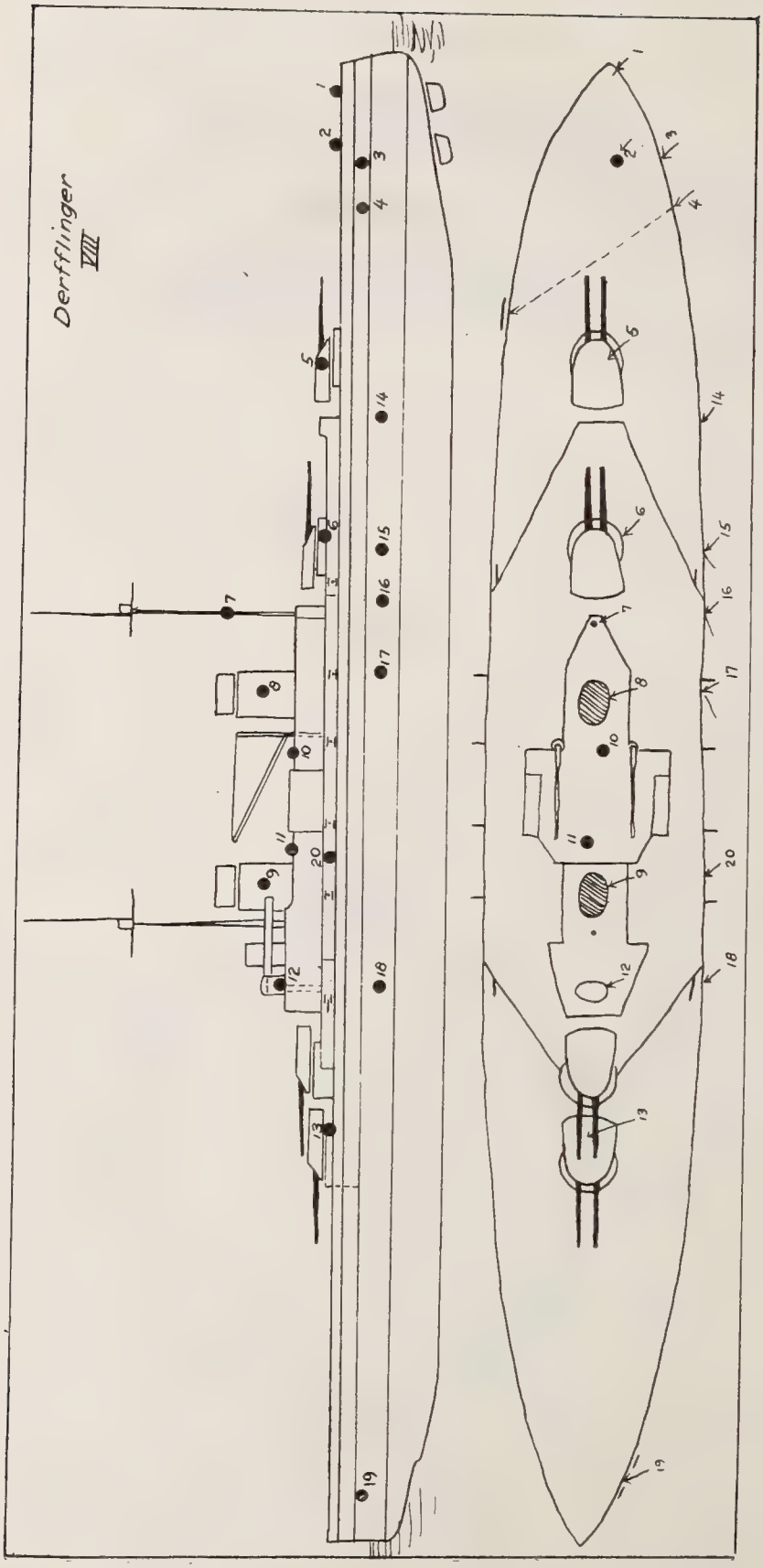
Hit 10, citadel shot through; diagonal bulkhead out of place; bosom piece torn; leakage.

Hit 11, cover of turred D grazed.

Hit 12, deck toward the front; demolished all three capstans; deck torn open.

Hit 13, light hit forward.


Derfflinger
VIII
Hit No. 6
VIII


Derfflinger
VIII

VIII. "DERFFLINGER," IN DRY DOCK.

Hits 1, 2, against the sides of the ship and on deck without appreciable effect; skylight on deck demolished.

Hits 3, 4, on upper deck; deck torn open, shell exploded under deck; body of the ship damaged; battery deck forced in; a large splinter against the armor plate to starboard; plate perforated; plate removed; skewback put in order and plate put in position again.

Hit 5, turret cap penetrated; shell fell in turret, demolishing the guns.

Hit 6, against barbette III; an armor plate penetrated; joggling of adjoining plates damaged; wedges driven into the apertures; damaged plates left; shot holes smoothed off; pieces of plate set in front; counter plates set up in turrets, intervening space filled with cement.

Hits 7, 8, 9, against mast and the two funnels splinters of funnel fell on the armored grating and remained there.

Hits 10, 11, light hits on deck.

Hit 12, against the port edge of the conning turret; shell repulsed; portion of the armored plate broken out; piece broke off the edge of plate at other end; numerous hits on the edges and butts of armored plates. Tabling angle of the armor of the conning tower renewed, plates retained.

Hit 13, front barbette grazed, shell repulsed, deck damaged.

Hits 14, 15, 16, 17, 18, against side armor, three shells repulsed, remaining splinters demolished armor plates; pieces shot into the interior of the ship, where they remained. Hits 16 and 17 opened the outer plating of the ship under the water line; leaks caused; the shells which were repulsed also caused leaks under water; the body of the ship exerted a spring-like effect on the impact of the projectiles; armor plate sprung back; backing quiet, because bent beyond limits of elasticity; short armor bolts sprang out.

Hit 19, against the front part of ship; two armor plates torn off; replaced by new ones; bow hawse holes damaged; side opened; leakage; flooding of front part of ship; sank 1 meter deeper.

Hit 20, against citadel; great destruction in interior of ship.

There were no cases of fire; as a precautionary measure, several ships had installed perforated pipes with water circulation, on deck (Chinese in the Yalu battle). Screens were used as protection against blazing flames. Flaps (fall-downs) and doors were also used for this purpose. The officers and crew were protected from shell splinters by rope mats, sails, etc., used as screens. The drainage service (flooding and counterflooding) functioned well.

REGARDING THE DAMAGED SHIPS AT POLA.

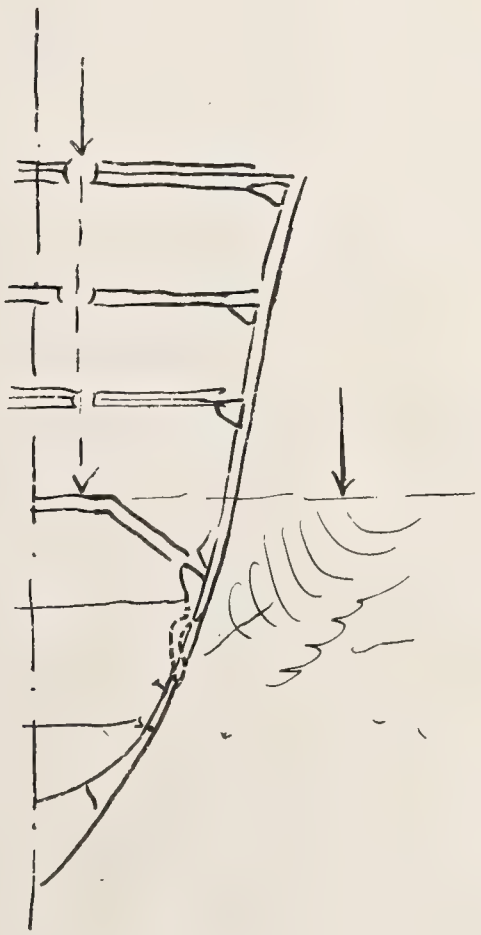
A large number of torpedo boats were damaged through mine explosions wherein either the front or rear part of the ships were shot away. This happened in most cases. Damage to the front part of the ships was the easier to repair. The framework was prepared separately and then the torpedo boat was put in dry dock and the damaged portion removed, after which the new part was built on in its place. The same principle was used in the case of damage to the rear part of the ship but the work took more time and was more difficult to carry out on account of the shaftings.

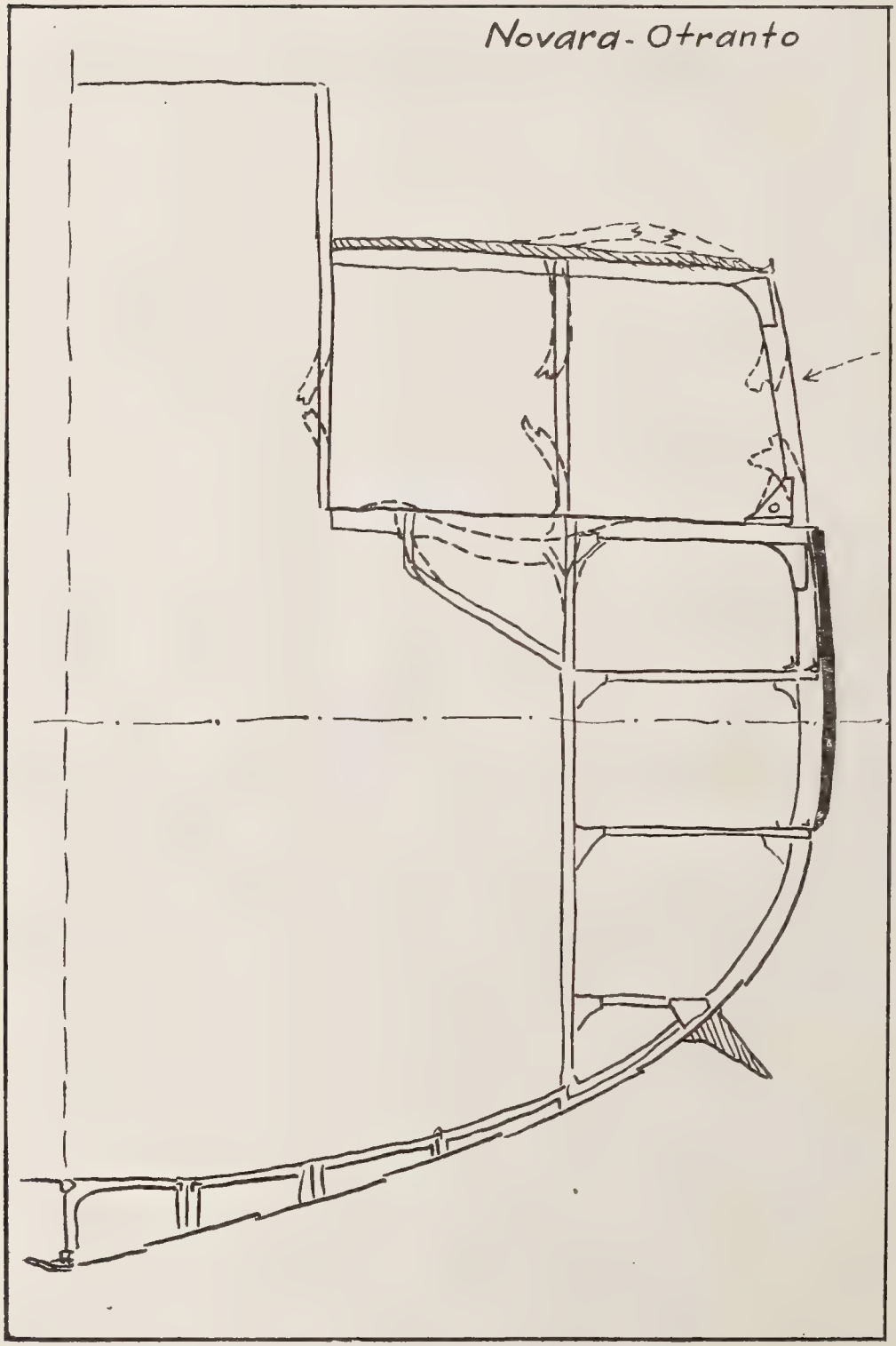
The badly damaged destroyers of the *Tatra* class were also repaired in the same manner.

Damage to the *Novara* after the battle at Otranto: Numerous hits from small calibered guns were repulsed by the light side armor (50 mm.)—a few remained in the coal depot without exploding. The one which did the most damage was a shell from the starboard quarter, falling in the machinery workroom, which demolished the side of the ship, tore open the upper deck and bent in the armored deck located just beneath. The engine casing (wall) lying opposite was damaged by splinters. In putting the ship in condition for further service, only the outer casing and the bulkheads were put in complete repair; the two decks were allowed to remain in their bent condition and were merely made leak proof; the wooden planking was made to fit the distorted form of the deck. The whole work, including docking, was accomplished in 14 days.

The submarine *Curie*. This ship was sunk at the entrance to the harbor, at Christmas, 1914, through coastal and naval guns. It was raised from a depth of over 40 meters. For the latter work, two small floating docks were used. Owing to unfavorable weather and other general restrictions due to the state of war, it took four weeks to raise the submarine. The boat had to be entirely renewed, as the battery, the engines, and the electromotors were partially spoiled or were no longer equal to the demands made upon them, so that they had to be renewed in order to have a boat that would be up to date. The conning tower was too small and was replaced by a new one so that practically nothing remained of the old *Curie* beyond the mere body of the vessel. Even the torpedo armament was renewed.

Babenberg. Pola




Novara - Otranto

The raising of the *Gioacchinto Pullino* and its repair were never completed, as it was found that such work would be as expensive as building an entirely new boat.

A number of other boats were damaged, but the work was of no particular interest, nor did it present any novel features. Owing to the similarity of the work, the shipyards attained a certain facility due to the repeated practice.

On the whole, all the damage showed that the main body of the ship had to bear the brunt of the damage and that it was inadvisable to decrease the weight to any further degree.

Besides the body of the ship all the installations on deck also suffered, such as searchlights, cables, cranes, capstans, etc., but these all could be easily replaced from the supplies on hand or from other ships.

The water-tight compartments did very splendid service, as most of the damaged ships could be brought to the central harbor. There were no bulkheads damaged through water pressure.

GENERAL REVIEW.

1. The buoyancy of the vessel has to be preserved above all things, together with its stability. This is attained through the arrangement of the bulkheads, small rooms, no listing. Sufficient freeboard; correct distance of the diagonal bulkheads, localizing of the leaks. Correct distance of the torpedo longitudinal bulkheads of the outer casing; correct dimensioning of the bulkhead metal and the bulkhead armament. Construction of the bulkheads and their reinforcements. The prevention of breaks in the cables, pipings, bulkhead, and construction material (special steel). Good drainage arrangements, organization of the flooding and damage control.

2. Extensive armor protection for retaining the buoyancy and preventing any destruction in the interior. Having the armor well joined to the body of the ship, so that it will be solid but not too stiff and rigid. Strong armored deck over the machinery, protection of the electrical and communicating apparatus.

3. Making the body of the ship so that all the conditions contained in paragraphs (1) and (2) may be carried out. Installation of sufficient material, so that leaks in the bulkheads and decks can be prevented. Careful study of the details for the backing of the armor and for the attaching of the armor plate and the joining of same together. Ventilation during the battle and between battles. Prevention of any breaks in the bulkheads through the ventilation pipings.

4. Having the necessary workmen on hand for doing the repair work and also having all the necessary appliances, etc., for such work, such as docks, building material, armor plate, etc.

In Pola there were eight docks continually in use, so that there was scarcely any time or opportunity to keep the docks in shape. The submarines especially had to be docked often.

Miscellaneous information concerning gun fire and damage.

Battleship *Thuringen.*—The *Thuringen* was not hit during the action. She picked up some survivors of H. M. S. *Indefatigable* and later on transferred them to a destroyer.

Battleship *Schlesien.*—It was stated that the *Schlesien* received no damage during the action, except through accidental ramming by the *Schleswig-Holstein* at the time when the *Pommern* was sunk.

Battle cruiser *Lutzow.*—This ship was not sunk during the action. She was hit forward by a torpedo, which caused her to lose trim by the head. She had previously been struck by several heavy shells below the water line, which had caused the flooding of certain compartments. After the action had been broken off, her wounded were transferred to other ships, and she was taken in tow by a light cruiser and screened by a destroyer flotilla.

As, however, owing to the ship being so heavily damaged, progress was slow, and it was feared that she might fall into the enemy's hands, the remainder of her crew were taken off toward morning, and she was sunk by two torpedoes fired by German destroyers.

The *Lutzow* came under heavy gunfire early in the action and received at least 40 direct hits.

Turret B was hit by a plunging shot and six men were killed, but the turret was not put out of action. Another plunging shot struck the wardroom, hitting the deck between the foremast and the conning tower. A third shell struck A turret just above the water line; it penetrated the armor in the vicinity of the turret, but did not burst.

Another shell penetrated the armor on the port side under a 5.9-inch gun and buried itself in the bunkers, but did not burst.

The vessel was hit forward by two torpedoes, and, as she continued to proceed at full speed, the bulkheads could not stand the pressure and gave way, which necessitated the abandonment of the ship. The first torpedo struck her about 8 p. m., and the second about two hours later (8 p. m. German time=6 p. m. G. M. T.), but it appears that the ship was not abandoned till about 3 a. m. German time (1 a. m. G. M. T.), and during the night she had sustained further damage from gunfire.

Vice Admiral Hipper left the ship after the first torpedo hit her. She was becoming difficult to maneuver, being down by the head. It was stated that it was his original intention to transfer his flag to the *Derfflinger*, but that eventually he was obliged to go on board the *Moltke.*

When it was decided to abandon ship, destroyers (among them *G. 40*) came alongside and took off the survivors. At about **3.20**

a. m. German time (1.20 a. m. G. M. T.) the captain of the *Lutzow*, Captain Harder, caused a torpedo to be fired at her aft by one of the destroyers and she immediately blew up and sank.

It is stated that during the action about 400 men were killed and 70 injured out of a total complement of 1,400. The survivors were mostly used to commission the battleship *Baden*.

This naval battle, like most others, was fought and decided with the gun. In the early stages of the battle, especially, the Germans reached a high standard, both in the rapidity of their movements and in the accuracy of their fire. When the action began the range was 18,500 yards and was subsequently reduced to 14,500 yards. The greatest range mentioned in the dispatches is that at which the fifth battle squadron opened fire, which was 20,000 yards. On the northern course, after the German battleships had joined, the range was 14,000 yards. At 6 p. m., when Admiral Beatty turned to east, across the German van, the range was 12,000 yards. The shortest range of the battle, so far as the capital ship fighting was concerned, was 8,000 yards, when Admiral Hood's squadron was only this distance from the Germans. That at the ranges given above, and in a battle lasting intermittently for over four hours, a great deal more destruction was not done can only be explained by the low visibility and the indistinct nature of the targets, that ships were constantly disappearing in fog, and difficulties of keeping range under these conditions.

Oldenburg was only hit once, viz, during the night action by a 4-inch high-explosive shell from a British destroyer, which struck the searchlight platform on the foremast and then glanced down onto the bridge, killing four or five officers and seriously wounding the commanding officer, Captain Hopfner. The total casualties, including officers on the searchlight platform and the bridge, were 11 killed and 11 or 12 wounded.

Rheinland was hit twice. The first hit was a plunging shot, which entered the deck just forward of the port 5.9-inch battery; the second struck the searchlight platform on the foremast. The casualties were 8 killed and 15 wounded.

Hessen. It was stated that this ship suffered neither damage nor casualties during the action.

Light cruiser *Rostock*. This ship was hit above the water line on the port side aft, and another shot penetrated the port side forward. A torpedo struck No. 4 starboard stokehold, killing 17 men.

As the ship was settling, she was taken in tow by a German destroyer, which finally sank her by gunfire. The casualties amounted to 28 killed and 6 wounded.

The *Seydlitz* is a battered hull, and the *Derfflinger*, *Moltke*, and *Von der Tann*, although not so badly punished as the *Seydlitz*, all had the greater part of their superstructures shot away.

The smokestacks and superstructures of the German ships were more or less seriously damaged, the *Moltke*, *Derfflinger*, *Konig*, and *Seydlitz* suffering most. They are being repaired quickly. The *Moltke* has joined the fleet again, and the other ships will be in commission in about three weeks.

In the prisoner's opinion, the popular belief in the German Navy that the British made use of gas shells at the Battle of Jutland can be traced to the appearance of the men killed in some of the turrets. He stated that they showed the characteristics usually associated with death due to asphyxiation by poison gas, but he himself was clear that no special gas shell had been used.

RANGE.

1. Opened at about 18,000 yards; most of fighting took place at from 8,000 to 12,000 yards.

2. High German official states that battle ranges ran from 14,200 to 9,800 yards.

3. German officers state that on account of the weather conditions they were able to get the range they wanted for their 11-inch guns and that the rate of fire was nearly double that of the English big guns. Opening ranges said to have been between 12,000 and 14,000 yards.

4. Conditions of visibility were bad; the range was usually at about 11,000 yards, and frequently ships could not see anything but the flash of the enemy's guns.

5. Midshipman on *Queen Mary* states that range averaged 15,000 yards.

(C)

EXTRACTS FROM THE REPORT OF ONE OF OUR OWN OFFICERS WHO WAS AN OBSERVER ABROAD DURING AND AFTER THE WAR.

As we know from the history of the Battle of Jutland, the German battle cruisers took the brunt of the battle, not only in the first battle-cruiser action but when used later to screen the German battleships.

Interest lies chiefly therefore in the hits received by the German battle cruisers.

The *Lutzow*, *Seydlitz*, and *Derfflinger* received 22, 24, and 29 major caliber hits. The shells that penetrated apparently had little explosive effect after getting into the ship, but were sometimes picked up in large pieces near together. The Germans state that the British armor-piercing shells were loaded with black powder. In no other way can they account for the trifling explosive effect. They stated they had heard in Germany after the Battle of Jutland that the

British were changing their shell. They therefore looked for greater damage from encounters with British ships after that time. Subsequent cruiser actions, however, in the late summer, near Norway, showed that the British shell was still the same and had little explosive force.

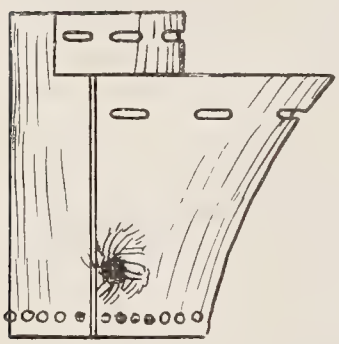
Vice Admiral Rogge, who was chief of the bureau of German ordnance throughout the war, told of a case of a cruiser action in November, 1917, in which a 15-inch shell from a British battle cruiser passed through three funnels of the *Konigsberg*, through the superstructure under the bridge, and finally landed in the coal bunker, where it exploded with no more damage than the starting of a fire in the coal bunker. As to the British changing their shell, I know from personal experience when I was attached to the British battleship *Ramilles*, of the first battleship squadron, that the gunnery officer talked about expecting to change their shells when I joined in the spring of 1918. They had not yet changed the shells when I left about three months before the armistice.

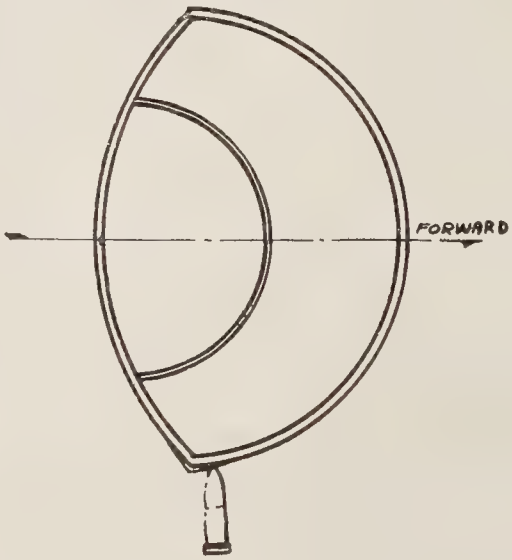
Let us return to the hits on the German battle cruisers. It is a remarkable fact that with all the hits received on the battleships and battle cruisers not a single ship received damage in the engine-room machinery.

The photographs for the *Lutzow* were not available because that ship was sunk on the morning of the 1st of June by the Germans themselves. I talked with the gunnery officer and the secondary battery officer of the *Lutzow* as to the damage received by this ship. In the early part of the action, the *Lutzow* received a salvo of two and probably three major caliber hits, at a range of 10,000 meters, close together abreast the forward torpedo room where protection is 6 inches or less. Strange to say these hits entered just below the water line. The torpedo room was flooded. The Germans believe that they could have saved the *Lutzow* and gotten her in as they did their other battle cruisers which were severely damaged, except for the fact of the *Lutzow* being the flagship and of the admiral requiring her to continue in her position in the firing line. She was driven ahead into the sea and other compartments were filled, not through the failure of the bulkheads, but through the bursting of doors. The forward turrets finally had to be abandoned and by 5 o'clock the next morning the screws were out of the water and the crew was taken off by three German destroyers. The ship was torpedoed by one of these destroyers. A rather sad incident was told me by Captain Bodie of the *Lutzow*. He said that while other compartments in the forward part of the ship had flooded, that the bulkhead and doors of the forward dynamo room had held although the compartment was entirely covered and surrounded by water.

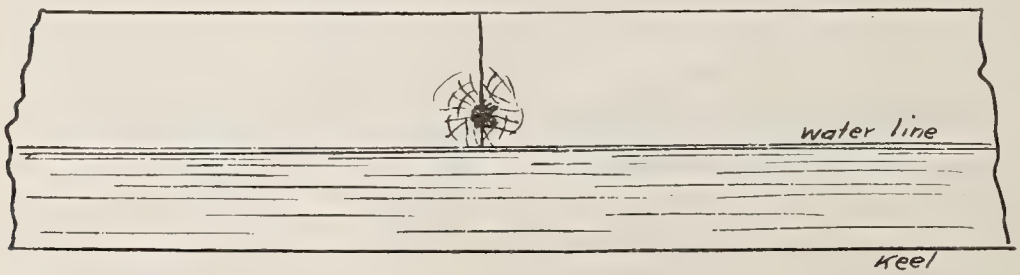
They were in telephone communication with four men in this compartment up to the time that the rest of the crew left the ship and before sinking her with these men on board.

Later on when the *Baden* was fitted up as the new flagship, the admiral had the forward torpedo compartment divided by bulkheads into many compartments. He wanted to take every precaution against his ship having to leave the line. This is an example of extreme measures, yet probably necessary, taken as a result of this bitter experience. It is a measure well worth thinking of when we consider the importance of keeping the admiral's ship in the fight.





The photograph of the 15-inch hit which landed on the after side of the fire-control tower of the *Defflinger*, thickness of armor 300 centimeters, showed little damage beyond the shearing of a half dozen bolt heads. This hit landed on the side armor of the tower at a point where it is backed up by transverse armor on the back of the tower. The range was about 15,000 meters. There was no penetration and the fire-control instruments in the tower were not disturbed.



Another case of a hit upon a conning tower was that received by the *Koenig*. This hit landed just below a slit. There was no penetration or serious damage. This also was at about 15,000 meters range.

I saw photographs of two cases in which hits had landed fairly in the middle of the seam of two armor plates.

These were 15-inch hits on the side armor of the battle cruisers. The range was 15,000 meters. The hit showed some radial streaks and some circles around the center of the impact, but these streaks were only cracks in the hardened surface of the armor and did not extend deeper into the tough and softer portions. In the case of one of these hits, which was very near the water line, it had not even caused a leak. The photographs of the inside of the plate showed the heavy angle iron backing structure over the seam where the plates joined and similar angle iron in the middle of the plates.

It was only where the ranges in the data sheets were recorded as 10,000 meters and below that penetration occurred. An interesting 15-inch hit at 9,000 meters was that which pierced the heavy side armor, passed through the entire ship, and slightly pushed out an armor plate on the opposite side of the ship. This plate was pushed out for a fraction of an inch. It was not necessary to remove the

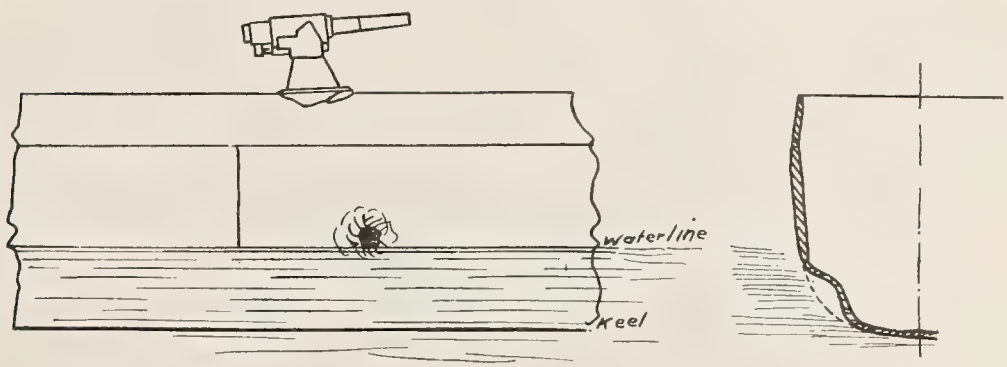
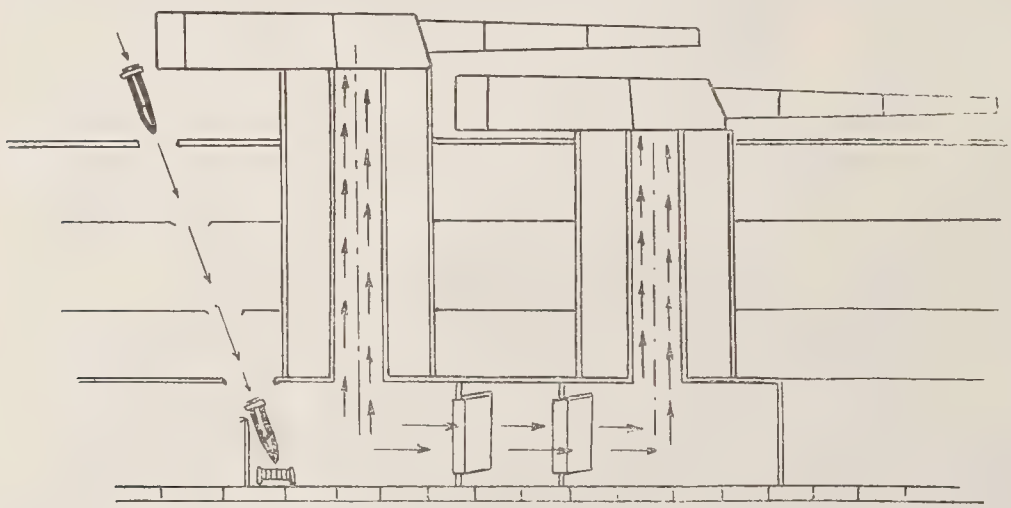


plate on putting the ship in condition. The Germans did not think much of the British fuse in this shell.

There were two cases of a peculiar sort of hit which will be of interest to our naval constructors. These hits occurred on two different ships. They were major-caliber hits, which landed on the side armor in one case in that part of the ship abreast the conning tower and about 5 feet above the water. The armor was not pierced. There were only a few surface cracks; but the peculiar effect of the hit was that the ordinary side plating of the ship below the armor belt was pushed inboard, extending over a fore-and-aft distance of 10 to 15 feet, causing the rivets to leak in this plating. The effect of the upward blast of this hit was to do some slight damage to the mount of an antiaircraft gun on the deck above the hit. The other hit, of a similar nature on the side armor of another ship, did little damage but that of bulging in the plating of the ship's hull beneath the armor and causing leaks in this plate. This inward bulging of the ship's plating was thought to come from the force of the explosion near the surface of the water, force being transmitted from the water to the weaker side plating below the armor.

A hit on the turret roof by a major-caliber shell at 9,000 meters caused the roof to dish in to the depth of 10 millimeters—that is, about 0.4 of an inch—and the shell glanced off. This hit was on the soft part of the turret top. In their late ships the forward one-fourth part of the turret tops is hardened armor. There was no case of hits coming through the tops of the turrets. One midshipman was shaken out of the overhang of the *Lutzow's* turret when the turret was hit on the side.

A hit on the face of one of the turrets just above the gun put that gun out of commission, but the turret continued to operate and the other gun continued in action. Some hits at 9,000 meters entered the barbettes of the turrets. In one of these the hit passed through the main deck abaft the mainmast and through the turret barbette. This hit entered the electric room and put the gear for one gun out of commission. The electric gear was repaired and the turret oper-



ated with the other gun. Hits on turrets did not jam the turrets on their roller paths. One hit which passed through the lower part of the barbette set a powder charge on fire in the handling room, which resulted in an explosion which burned out everybody in that turret. The explosion carried through into the handling room of the adjacent turret, setting fire to the powder there and burning that turret out also.

The Germans attribute the loss of these two turrets to one hit to the fact that in placing their magazines between two turrets and having the doors and passageways which open from the handling room of one turret through into the handling room of the adjacent turret. These doors were sprung by the explosion and opened, and the fire was carried into the adjacent handling room, where an exposed powder charge was ignited. After this experience they placed double doors on these handling rooms, passageways, and magazines, so that no matter on which side the explosion should

occur the force would always tend to close one of the doors. There may be a place in our passageways and handling rooms that requires double doors.

The flames which burned out these turrets were transmitted through the voice tubes and came out of the tubes in the after conning tower. The fumes from the burning powder were carried into central station and transmitting room. The Germans had large wooden stoppers previously made for all their voice tubes and immediately made use of them.

The effect of the hits in the lighter portion of the ship in the superstructure and above the armor plate was less destructive than would be expected from the explosion of a major caliber shell. I was shown a photograph of a test which Germany made of their high-explosive shell against an old battleship on which bulkheads had been strengthened for this test. The shell struck just above the armor belt near the after gangway. This explosion lifted the whole structure of the after end of the ship in one piece, sides and decks, leaving a great gap above the top of the armor plate from the stern to the after part of the citadel, and canting this whole ship's structure about 10° to port. We have previously read of the effect of the German shells from Admiral Jellico's book, in which he speaks of their damage at 16,000 yards in blowing off the turret roof of the *Lion* and in sinking the *Indefatigable* and *Queen Mary*.

With all the hits I observed, it appears that the only serious ones were those hits at short range on turrets where they resulted in the burning of powder in the handling room and turret. These and one in *Lutzow's* torpedo room were the most effective. The effect of explosions due to shells themselves in any other parts of the ship were not what we would call fatal. I was surprised to see the great store set by nearly every German officer with whom I talked in the advantages of their brass cartridge cases. They do not have partitions between the guns of their latest turrets. This may be due to the fact that their brass cartridge cases have saved them from explosions during peace times. We have more or less jeered at their using these cumbersome cases and particularly as I have heard many American officers say that the forward charge must be a bag charge anyway. As a matter of fact, this forward charge is also in a metal case of thin metal which is consumed in the gun on discharge. Even the ends of the forward powder charge are made of thin metal. This, they say, saves them from dangers from sparks and flarebacks. Since I have started to speak of powder, I might add that the cases in the magazines in which their powder is contained is zinc and not brass. They say that brass is rigid and tends to cause an explosion, where zinc will give easily; one case being ignited will allow the charge to burn rather than to explode with possible damage to a great number

of neighboring charges. Their powder grain is the full length of the case, has one hole in it, and they use long, narrow ribbons of powder between the cylindrical sticks.

There were some hits well above the water line in the forward end of the *Seydlitz*. These had little destructive effect, but made holes in the lighter armor in that part of the ship. These holes were ignored by the ship's personnel, but later proved a great danger to the ship because holes received later on the water line put the ship down by the head, causing the holes which were previously regarded as harmless to come below the water, with the result that the *Seydlitz* narrowly escaped the same fate as the *Lutzow*. The Germans state that from this they had learned the importance of stopping holes above the water line which later might prove dangerous. Photographs show a special wooden stopper used by the Germans for stopping large shell holes. This stopper was made of three or four pieces of board or planks backed by matting or stuffed canvas. Bolts were run through these planks and the planks were hauled against the hole in the side of the ship by dogs used on the inside. Stoppers of various sizes were distributed throughout the compartments of the ship. They state they had discarded collision mats as impracticable.

Although conning towers and fire-control towers received hits, there were no penetrations of these towers. There was no occasion for the shifting of the command out of the conning tower to the second in command. The fire control was sometimes shifted to the after-control station, but this was for reasons of visibility and not because of hits. The secondary conning and control station was not manned by the executive officer, but by junior officers. The station of the executive was in central. We place our executive officer in our secondary conning station. In doing so he is immediately able to take over command if necessary, but when we consider in this battle that there was not one case of the conning tower being put out of commission, it appears that we might make some better use of this experienced officer during action than that of having him stand by in a fixed position. Our secondary conning station should be equipped and well manned, but we might do well to change that part of our procedure which requires the executive to stay in this station at all times.

No masts were carried away by hits, although two officers were killed in fighting tops. The main radio antennæ were carried away in many cases but numerous auxiliary sets permitted good radio service to continue.

Hits or splinters received during the day action put most of the *Lutzow's* searchlights out of action. She had not sent her search-

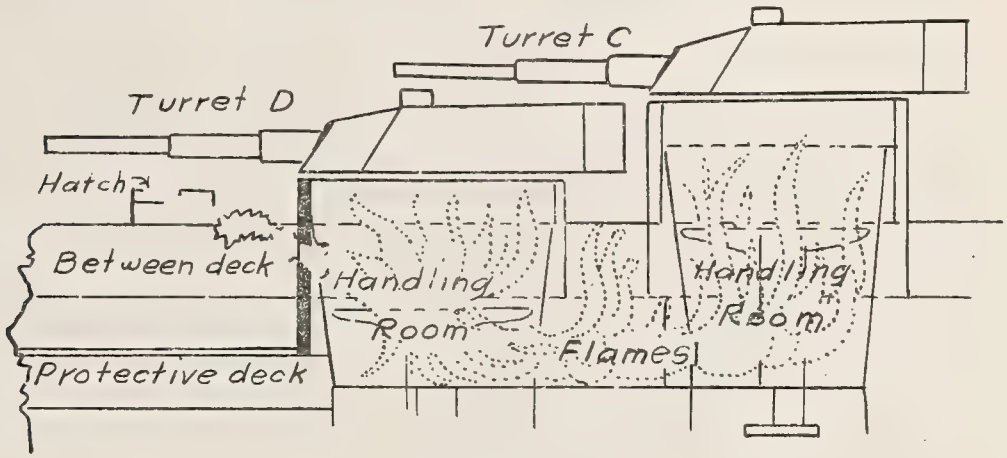
lights below for day action as the other ships had, and she was greatly in need of her searchlights during destroyer attacks which followed in the night. With all the hits received in the battle cruisers and battleships, there was no case of damage in the engineering department.

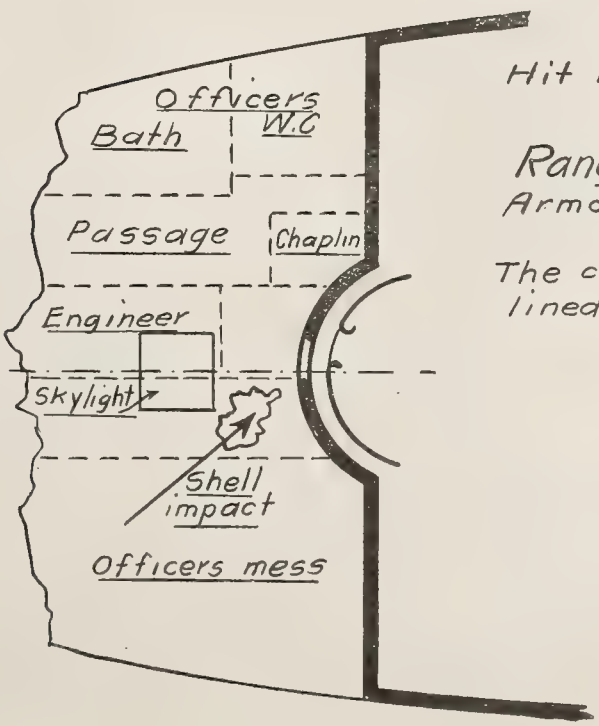
(D)

TRANSLATION OF EXTRACTS FROM THE GERMAN PUBLICATION DER KRIEG ZUR SEE, 1914–1918.

HITS ON THE "DERFFLINGER," DOGGER BANK BATTLE, JANUARY 24, 1915.

At 10.43 salvos which fell short of the *Derfflinger* made themselves particularly felt in the after part of the ship. The bulkheads in the propeller shaft alley were bulged in and the rivets were loosened in the hull near the struts so that considerable leakage of water occurred in the after part of the vessel. These leaks were closed, however, after a few minutes.





Hit in after part of SEYDLITZ

Range about 17,000m

Armor penetrated thickness 230 mm.

The compartments underlined were destroyed

HITS ON THE "SEYDLITZ," BATTLE OF DOGGER BANK.

(See sketch.)

A particularly fateful hit was received by the *Seydlitz* at 10.40 a. m. which had serious consequences. The hit which struck the *Seydlitz* just abaft D turret penetrated in the handling room of same and flames were seen to rise up to the height of the mast from both after turrets. Control stations called to turrets C and D as well as the after torpedo room and after compartments gave no answer. The 35-centimeter shell coming from direction of 130° (that is 40° abaft of the starboard beam) penetrated the deck then through the barbette armor in the handling room of turret D, where this shell detonated. Although the greatest damage was done in the compartments adjacent to the barbette, parts of the red hot shell penetrated into the handling room and there ignited the powder cases which were on the loading rails. The flames from these cases penetrated into the ammunition hoist as well as into the turntable of the handling room, igniting the powder cases which were lying there as well. Only those powder cases which remained in the cans with closed cover were shielded which prevented them from igniting. The personnel in the handling room of turrets 165 men were burned to death. The fire-control officer noticing the room of turret C. In order to accomplish this, the water-tight doors between these two compartments had to be opened. It is probable that at this time the loose powder cases in the handling room of turret C was ignited by the flames passing through these doors. In these compartments the forward and aft powder cases were burned as in turret D. The flames from these powder cases penetrated through the openings in the ammunition hoist trunk and ignited the powder cases which were on the hoist. In this manner about 6,000 kilograms of powder were ignited, although the powder which had not been removed from the cans failed to ignite, even though the covers were off the cans in some cases. No witnesses survived this catastrophe. As a result of the burning out of both turrets the 165 men were burned to death. The fire-control officer noticing the flames in the after part of the vessel came to the conclusion that the powder magazines in the after part of the ship would be detonated and the explosion would sink the entire vessel. The command was therefore given for rapid fire from the two forward turrets in order to inflict as much damage as possible in the last minutes remaining to the vessel.

In the meantime, however, the first lieutenant with two assistants managed to reach the flooding valves in spite of the intense heat and gas. The flooding of the after magazines probably saved the ship. This flooding of the magazines, however, resulted in a penetration of water into the adjacent compartments, as the air-escape valves had become distorted, due to intense heat. As a result the ship was considerably down by the stern, the trim sufficiently altered to cause draft of 10.5 meters aft, and the ship was in danger of being completely flooded aft by further penetration of water into the stern, due to high speed at which the vessel was steaming. In the meantime the gas from the after turrets had rendered the air in the compartments so foul that the personnel in the steering-engine room was forced to abandon their station for half an hour in spite of the oxygen tanks which they possessed.

S. M. S. "BLÜCHER"—BATTLE OF DOGGER BANK.

At 11.30 a. m. a serious hit was received by the *Blücher*. At this time it was observed that the armed cruiser *Blücher* had been covered by straddling salvo. Immediately following this a heavy burst of flame was noted in the

center of the ship. As far as can be gathered from the survivors, it was determined that this shell struck the ship in one of its most vital spots, namely, in the experimental ammunition conveyor, which extended from the forward to the aft handling rooms. This installation was being tried out only aboard the S. M. S. *Blücher*. The shell, which penetrated the deck between the two forward turrets, ignited about 35 or 40 of the 21-centimeter powder cases which were on this conveyor. Flames from this ignition penetrated into the forward handling rooms, and the result was very similar to the catastrophe aboard the *Seydlitz*. Poison gases penetrated through the speaking tubes and ventilating ducts into numerous other parts of the lower decks, including central station, conning towers, and other important compartments. The fire-control apparatus and helm indicators were put out of commission by this one shot. Further, splinters penetrated the main steam line in No. 3 fireroom, thereby reducing the steam pressure and causing the speed of the vessel to be reduced to 17 knots. A signal made to the *Seydlitz*, probably in error, was "All machinery out of commission," but for a long time thereafter the *Blücher* continued firing and following in the wake of the other vessels, although gradually dropping astern.

EXTRACT FROM GERMAN REPORT OF DOGGER BANK ACTION, JANUARY 24, 1915.

At 9.52 Beatty's squadron had been gradually overhauling the German battle cruisers, but the fire, on being opened by the British, was at a range of about 20,000 yards. The *Lion* was ranging on the *Blücher*. Salvo fell short. 9.54 Beatty drew his battle cruisers off to port in order to be able to bring more guns to bear, and at 10 a. m. the *Tiger* began to range on the Germans with individual shots. It was 10.05, however, before the admiral gave his signal for a general engagement. Then the *Princess Royal* opened fire against the *Blücher*. The Germans still refrained from answering. In the meantime Admiral Hipper at 10.02 had changed his course and brought his ships on line of bearing south in order to bring the batteries of all four ships to bear, but the thick smoke which resulted from the full-power steaming of the cruisers, blown by the light southwest breeze, was carried between the battle lines and more or less obscured the enemy from the German ships. It was not until 10.12 that the *Moltke* observed salvos lying over. Relatively late the *Seydlitz* received permission to fire, as this ship was farthest from the enemy. The fire was returned, however, by the German ships only after the range had dropped to 18,500 meters for most of the German cruisers and 19,000 for the *Derfflinger*. Owing to the construction of the turrets a maximum elevation of 20° was possible. This construction was imposed by the necessity for saving weight in order that greater armor protection could be had. The Germans considered that owing to the usual visibility conditions in the North Sea the extreme visibility existing on January 24, 1915, could be regarded as exceptional, and therefore had limited the extreme range turrets to approximately 19,000 meters.

GERMAN COMMENTS ON DOGGER BANK ACTION (GUNNERY).

The battle range was considerably greater than one expected, owing to the battle formation of the two squadrons and the extraordinarily favorable visibility conditions. If one is to judge by the later experience of the battle of Jutland, the German artillery fire was, on the whole, more effective and destructive to individual British vessels. As a result of the Dogger Bank action, however, one was inclined to overestimate the results obtained by the British 34-centimeter shell on the *Seydlitz* and the *Blücher*. On the other hand, it has been

definitely determined that the British shells were only very effective in their action when they penetrated the deck without exploding and at extraordinarily great angles of incidence; while the German side armor, even on the *Blücher*, successfully withstood all hits made in the long-range engagement. A careful examination of the fateful hit on the *Seydlitz* showed that even in this case the handling room had been penetrated by parts of the barbette only, while the splinters of the shell remained in the compartments outside of the handling room. Furthermore, this shell contained no high explosive, but was loaded with black powder. On the other hand, the lighter German shell had penetrated the British side armor in at least two cases on the *Lion*, in spite of the unfavorable angle of incidence; once at 11.18 and once between 11.35 and 11.50, thus at ranges of 16,000 meters and 14,500 to 15,000 meters. In the first case the damage was so great in the machinery compartments that the engines were brought to a stop. Extraordinary effectiveness of the German shell is all the more remarkable when it is considered that the muzzle energy of the British guns was practically twice as great as the German. This may be attributed largely to the better quality of the German armor-piercing shell and the British inferiority of armor plate. As a result of the whole, an error of the British shipbuilding policy was shown; that is, too much stress had been laid on large caliber and high speed, as opposed to armor protection and sufficient compartmentation to insure vessels remaining afloat. Although the German ships had fired well in spite of the long range and weaker calibers, the British were not able to take full expected advantage of their superior gun caliber and higher speed. It is true that in the battle the superiority of speed of the British ships permitted Admiral Beatty to choose his own battle range to the disadvantage of the Germans' gunnery and torpedoes, yet this did not work to the British advantage in their efforts to obtain a quick decision. The technical failures in the construction of the British battle cruiser type was first made really apparent at the battle of Jutland.

(E)

GENERAL RULES FOR DAMAGE CONTROL IN THE GERMAN NAVY.

The following rules were drawn up for German vessels in action:

The damage control in battle requires the greatest attention and a careful study is demanded in order that a quick and certain decision may be arrived at. The personnel should be trained in damage control in time of peace in order to insure efficiency. *The problem of keeping the vessel afloat remains under all conditions the most important duty.* This is a fundamental principle and takes precedence over all other demands in time of war or peace. If in the course of battle the hull of the ship is damaged, either above or under water, by torpedo hits, mine explosions, etc., or by grounding or ramming, or in any circumstances where water enters the ship, the following precautions shall be taken:

(*a*) Closing of all water-tight doors, including ventilation system, in the damaged parts of the vessel, so far as these have not already been closed by the condition in which the ship is at the time.

(*b*) Examination of the doors already closed so far as they are accessible.

(*c*) Examination of the leak and its extent.

(*d*) Supporting and blocking up bulkheads, doors, and hatches, as may be necessary.

(*e*) Confinement of the entering water in damaged compartments and sounding through available openings and adjacent compartments.

(*f*) Safeguarding all threatened ordnance material.

(*g*) Flooding of opposite compartments.

(*h*) Localization of the leak.

If the vessel has a leak, all compartments will be filled to the height of the water line, in so far as the leak is not localized by means of water-tight doors and bulkheads. The possibility also exists that in a heavy sea, or while steaming at high speed, shell holes in the above-water portion of the ship may be penetrated by the incoming water and large quantities may be taken on board in this manner.

In general it may be stated that the filling of one compartment may not result in serious danger to the ship; since, however, various bulkheads are penetrated by ventilating tubes, voice tubes, etc., the possibility always exists that the water will spread to other compartments of the vessel. It is also possible that these bulkheads, which show all the compartments filled with water, may be bulged, weakened, and become nonwater-tight. The breaking out of bulkheads is also to be feared in case they have been damaged or weakened.

A bulged bulkhead may also be a source of danger to the ship in case voice tubes or other pipes pass through same. These tubes are frequently bent with the bulkhead and may be broken or rendered nonwater-tight. The influence of water penetrating into the hull of a vessel is in general as follows: (*a*) Ship suffers an increase in draft according to the position and size of the flooded compartment; (*b*) a list; (*c*) change of trim.

DAMAGE CONTROL.

The first officer is charged with the responsibility of carrying out the provisions for damage control, and for this purpose has the necessary subordinates from the line officers, engineer officers, and warrant officers. The first lieutenant takes station in the damage-control central, which is located generally near the fire-control central station. The first lieutenant is responsible for issuing the necessary orders. The commanding officer of the ship is to be notified in time of battle only in the event of the vessel being incapable of maneuvering or out of action. In case of damage when not engaged in battle the commanding officer is to be informed of all damage. Damage-control organization will be put into effect and drilled as soon as possible after commissioning a vessel.

COMMUNICATION SYSTEM.

Communications and orders are to be transmitted through the voice tubes as far as practicable. The group leader in each division of the ship will in addition send written reports by messenger.

PERSONNEL.

Personnel will consist of the following: (*a*) Engineer's force off watch; (*b*) personnel detailed on pumps; (*c*) artificers; (*d*) carpenter's gang and repair parties.

The engineer force is divided into groups and distributed throughout the ship.

The artificers are stationed behind the armour-protection armour deck, in the immediate vicinity of the damage-control station.

The damage-control personnel is under the command of the engineer off watch, who has his station near the first lieutenant. The warrant officer or senior petty officer in each group is the group leader. He is not only group leader, but director of his group, and is responsible for the thorough training and for the efficient performance of duty of those in his group.

NOTE.—The watch, quartering, and station bills make arrangements for grouping and station of personnel engaged in damage control. Tables are posted throughout the ship showing the speaking tube and telephone communications from various compartments to damage-control stations. The damage-control personnel is reinforced by auxiliary groups, who are also provided for in the station detail.

ACTIVITIES OF DAMAGE-CONTROL GROUP.

The personnel is stationed in the various compartments for the duty of reporting immediately to the control central any damage to the compartment or entrance of water. The central station is in direct or indirect communication through voice tubes with various compartments of the ship. In case communication is interrupted messenger is to be used. Observation is confined to the compartment in which the person is stationed, but adjacent compartments are to be observed as well as double bottoms, as far as possible, by means of knocking, soundings, and observations of air bubbles. In short, by any method short of opening the water-tight doors and hatches.

In the event of damage each group has charge of the duty of stopping the leaks and localizing the damage without waiting for further orders. The necessary action is to be taken immediately and then reported. Draining or flooding is done under orders from the damage control. It is permitted for group leaders to make use of any small drainage pumps which may be at hand without waiting orders from the control station. Use of same is, however, to be

reported. In case personnel is insufficient to handle damage in that group the personnel from adjacent groups may be utilized as far as circumstances permit and in battle finally all available men may be drawn on to assist. In case of severe damage to the ship which would result in loss of her battle efficiency all the ship's personnel may be drawn on for assistance. The group leader has authority to call on such personnel in emergencies.

DAMAGE PREPARATIONS IN TIME OF WAR.

In order that the ship may be prepared to control the damage at any time, day or night, and be ready for battle, the following paragraphs are to be inserted in the "clear ship for action bill":

All openings as far as practicable are to be kept closed constantly.

All deck covers are to be loosened up so that they may be opened by hand when necessary.

In each compartment all necessary material is to be kept ready and at hand, such as tools, leakage stoppers, etc.

The watch off duty shall sleep at battle stations. The hammocks of the damage control personnel off duty shall not be put in the hammock nettings, but be kept if possible lashed in the vicinity of the various control stations in order that it may be used for leak stopping at any time.

In the tables and plans available for damage-control officer the first lieutenant must have at hand the following information, to be available at all times: (1) The displacement of the ship and the tons per inch immersion tables when vessel is on even keel. (2) Stability curve for various angles of list. (3) Moment of trim for each centimeter change of trim. (4) Righting moment for each degree of list. (5) Effective listing and change of trim on the fighting efficiency of the ship, showing effect on turrets and draining, effect on broadside batteries and effect of emerging side armor, effect of list on boilers and engines. Time required in counterflooding to correct list of various numbers of degrees. (6) Capacity of pumps for draining. (7) Change of trim or list which will bring propellers above the surface of the water.

The first lieutenant must be equipped with complete and detailed plans of the draining system of the ship, showing manner in which every compartment may be drained. Same applies to system of flooding various compartments to correct list or change of trim.

The damage control officer is required to keep a board in central station, on which may be noted continuously the condition of each compartment as regards flooding, damage, etc., as to estimated amounts of water penetrated.

The damage control officer must have available list of all compartments, showing the effect on battle efficiency in case same are damaged, and the necessary measures be taken in case same be flooded. This includes all auxiliary machinery affecting the maneuvering of the vessel or the battle efficiency of the ship. All watertight doors, hatches, and openings are noted on the plans in the damage control officer's station. Sounding rods, spirit levels, and fire extinguishers are to be placed as designated in the ship's bill.

Location of air-pressure nozzles are noted and are required especially in compartments containing alcohol, oil, paints, and all inflammable material.

DRILLS.

The personnel is trained in their duties by constant drill in time of peace. The drills are divided into two general classes, as follows:

(*a*) Without flooding (dry practice and wet practice).

(*b*) With flooding.

Under (*a*) the following principal points are to be brought out:

Drills to assist in acquainting the personnel with the structure of the ship, including drainage and flooding systems.

Training for the efficient location of leaks.

NOTE.—Practice should be held at certain times in the dark; that is, the lighting circuit should be extinguished, in order that the personnel may be trained to sound compartments with accuracy even in the dark.

Special instructions shall be held to acquaint the personnel with the necessity for keeping compartment doors and hatches watertight, and the methods for accomplishing this purpose.

Training in methods of making reports and quickness and accuracy in getting such reports through to central.

All orders concerning damage control must be repeated back word for word.

Under (*b*):

Practice for flooding compartments must be carried out under the same general principles above, except that opportunities shall be taken to flood actual compartments and thereby assist in making the training more realistic. In this case water shall be admitted to various compartments, the sluice valve opened to permit same to flow into adjacent compartments. The damage-control personnel is then required to free the ship from water and make the necessary provisions for preventing water from reaching other compartments, to strengthen bulkheads, etc. This should be carried out several times in the course of the year. Such practice shall not be extended, however, to such portions of the ship where material may

be damaged by entrance of such water. Only pure water shall be used for this purpose. More extended practice may be carried out and the drainage system is to be tested in conjunction therewith.

Special emphasis must be placed on the fact that all parts of the drainage system may be required to be put in use without the engineer force at the pumps being notified. For this purpose special training shall be carried out in order that proficiency may be obtained. Practice in draining compartments must be carried out also in cases where lighting circuit has failed. Flooding of various compartments must be actually carried out and tests shall be made to determine exactly what quantities of water can be admitted per minute into the various compartments. This is to be done in all cases where the penetration of water into compartments would not too seriously damage the material. On vessels having water-tight fore and aft bulkheads the practice shall be held under conditions where one side is completely flooded. All appliances shall be used to bring the ship on an even keel in short as possible time.

NOTE.—In every case cited above the damage-control books furnished to those concerned contained complete plans of all compartments, water-tight doors, drainage system, flooding system, communication system, and sluice valves.

The station bill for damage control is worked out in extreme detail and exact provision is made for the training in each group.

A tabulated list of compartments shows the exact quantity of water contained when compartment is filled and the influence of such flooding on the whole efficiency of the vessel, the method of draining such compartments, and the necessary methods to be taken in counter flooding. In addition is shown the exact alteration in trim, displacement, and list of the ship due to such flooding.

A second volume is furnished each vessel in commission, showing in detail the complete plans of the vessel, together with all detailed information of the main and auxiliary machinery, communication systems, ventilating systems, drainage and flooding systems, as well as coal-bunker protection and under-water protection against mines and torpedoes. The first lieutenant is required to make a comprehensive study of this, as well as numerous other duties enumerated above.

(F)

COMMENTS BY THE BUREAU OF ORDNANCE.

1. The bureau has noted with interest the various papers supplied by the Office of Naval Intelligence and returned herewith, with reference to the damages sustained by German vessels during the war, and in particular at the Battles of Dogger Bank and Jutland. It

is understood that the Office of Naval Intelligence desires comment on these papers for inclusion in a publication containing them, and such comment follows.

SHIP FLOTATION.

2. In reviewing this and other material in connection with the naval actions of the war, the most striking factor is the ability of the German vessels to remain afloat despite heavy damage. This appears largely due to the thoroughness of the German organization for damage control, as evidenced not only by the actual results afloat but also by the "General rules for damage control" contained in these papers. The ship subdivision, so often stated as responsible for the flotation of the German ships, does not on close examination appear superior to that of vessels of other nations. The armor plate is no better than that of the United States, as evidenced by tests of plates from the *Osterfriesland;* the resistance to torpedo destructive effect, as evidenced by the *Lutzow*, is no greater. Careful attention to and thorough organization and drill in damage control appears to be alone the cause of the German success in salving major ships heavily struck.

EFFECT OF GUNFIRE.

3. *Range.*—The statement that the elevation of German turret guns in the battle cruisers had been limited to 20° because of normal visibility conditions in the North Sea is of interest. This range of 19,000 meters, or 20,400 yards, was, in the Dogger Bank action, where abnormally clear weather prevailed, insufficient to permit the German vessels replying to the British fire for some little time after the action commenced. The disadvantage of imposing presumptive limits upon range, rather than obtaining the maximum practicable, is obvious. The Battle of Jutland ranges are quoted in these papers, without a cross reference to other authoritative articles on the battle, as ranging from a maximum of 20,000 yards, when the British Fifth Battle Squadron opened fire, to a minimum of 8,000 yards in the engagement with Hood's battle cruisers, in which the *Invincible* was sunk. The damage to German vessels was not commensurate with that to be expected at the lower ranges, due to poor visibility and difficulty of range keeping. The poor visibility was in part due to the atmospheric visibility conditions, and in part to powder and stack smoke. The value of the assistance of airplane spotting even at mid and short ranges can be inferred; as well as the value of continuous fire-control system whereby fire can be maintained during temporary obscuration of target vessels.

4. *Armor penetration.*—In the Dogger Bank action apparently no penetration of side armor resulted. This was due probably to

the extreme range with high angle of fall, and also to the target angle of the German vessels, compounding the angle of fall so that the angle of impact of projectiles striking side armor was beyond the "biting angle." This "biting angle" is limited both by the form of the projectile and by the tendency of armor-piercing projectiles to break up on angle impact. Although the actual data in these papers can not be closely evaluated, it may be presumed that at an angle of over 30° from normal ordinary armor-piercing projectiles, not specifically designed for high angle impact, will not penetrate. At the Battle of Jutland a number of instances of armor penetration occurred, as might be expected from the lower range and more nearly parallel presentation of the fleets than existed in the Dogger Bank action. Here again, however, it is noted that projectiles striking curved surfaces, such as barbettes and conning towers, did not penetrate the same unless the portion of the curve approximately perpendicular to the line of fire was struck.

5. Deck penetration caused considerable damage at the Dogger Bank action. The long-range plunging fire permitted a large angle of fall, and the decks appeared to offer little if any protection. At Jutland, with flatter trajectories, little plunging fire damage appears to have been done.

6. *Destructive effect of projectile burst.*—Damage to lightly armored parts appears in general less than would have been anticipated. Damage to main propelling plant, boilers and engines, appears to have been very slight. In the German vessels, as well as in the British battle cruisers which were lost, the vulnerability of the ammunition train is emphasized. At the Dogger Bank the disablement of the two turrets of the *Seydlitz*, and the damage to the ammunition conveyer of the *Blucher* were most serious. The Germans report inefficient action of British explosive and fuses, and ascribe their relatively small loss by gunfire, in the protracted engagement of Jutland, to that. The statement is of interest that the armor backing in the ship structure in the vicinity of the armor was inadequte to support the impact of projectile against armor, causing structural damage at the time with resultant making of water by the ships, and also causing considerable difficulty in the repair of the damaged vessels.

It is of interest that in Germany as well as in England the enemy was charged with using gas materials in the projectiles. It is believed that neither the German nor the British fleet employed gas substances, and that the noxious gases noted aboard ship were the normal decomposition gases of the high explosives in the projectiles, and of the powder in the ship magazines, ignited in some cases by enemy fire. Gas protection, both for the ship and for the individual

man, by means of a gas mask, is, nevertheless, as necessary to guard against such gases as against actual gas substances.

The mining effect of projectiles dropping close aboard and causing underbody leaks is noted. This is, of course, substantiated in a major degree by depth charge, mine, and bomb experiences of recent years.

The durability of communication and fire-control circuits and fire-control instruments under fire at Jutland is of interest.

TORPEDO AND MINE EFFECT.

Due to subdivision, but mainly to damage control, the torpedo and mine damage sustained by the Germans appears to have been less than would ordinarily be anticipated. The *Lutzow* sustained two torpedo hits without sinking, and it is claimed she would have made port had she not been forced at such a speed as to strain her remaining bulkheads. The *Ostfriesland* weathered a mine explosion without fatal injury. The number of torpedo hits sustained by the Germans appears small, in view of the number of British destroyers engaged. This is probably due to the protection afforded by antitorpedo craft and to maneuvering of the major ships themselves to avoid torpedoes.

(G)

COMMENTS BY THE BUREAU OF CONSTRUCTION AND REPAIR.

1. The Bureau has carefully studied the various reports on damage to German vessels during the war collected by the Office of Naval Intelligence, and also the reports showing means taken to combat the damage at the time, such as the booklet of Damage Control of the *Braunschweig*, and the steps and methods taken to repair and make good the damages afterwards at shipyards.

2. Generally speaking, it is believed that the methods of installing armor, the protection afforded to the ships by armor, and the watertight subdivision on our ships are quite equal to similar features in German ships. On the other hand, no other navy, as far as is known, unless it be the Austrian, has ever approximated the German Navy in the study and attention given to the question of retaining proper stability of ships after damage. In the ships of our own Navy the designs have included means of counterflooding and righting ship, but no such elaborate system of operation has ever been worked out. It is, therefore, to this latter subject, as exemplified in these reports and as demonstrated by what the Germans were able to accomplish under actual conditions of battle, that the bureau has given the most study, and it is to the reports bearing on this subject that it is particularly desired to invite attention.

3. The basic principles of the system followed may be summarized in the statement that a ship must remain afloat and upright. To

carry out these principles the steps to be taken were, in the event of underwater damage, first to limit the inflow of water by closing of water-tight doors, valves, etc., and then to bring the vessel upright and to an even trim by counterflooding measures. Subsequently, steps could be taken, if considered desirable, to free the vessel of water as far as possible.

4. To accomplish these results each capital ship in the German Navy was furnished a book giving a description of the principles established for retaining proper stability after damage, and also tables and instructions applying to the ship in question, and in addition, a regular crew was assigned for the work of preserving stability and buoyancy. This crew was under the charge of an officer who was trained to possess intimate knowledge of the whole system. He was provided with charts giving the value of each compartment of the ship in terms of added weight of water and effect upon trim and list of the ship. With these tables he could, upon receipt of reports as to the flooding of certain spaces through underwater damage, give orders for flooding of other compartments to counteract the heel or change of trim resulting from the damage, giving consideration, however, to the reserve of buoyancy of the ship which would remain after such flooding. Quick action was considered so important that this officer was empowered to take counterflooding measures without directions from the commanding officer or executive officer, apparently reporting the circumstances after the desired results had been accomplished.

5. In all United States battleships means are provided to flood double bottoms, coal bunkers, and other compartments through the firemain so that heel or changes in trim can be compensated for, though such flooding would be slow. In addition, battleships from the *New York* to the *Mississippi* classes, inclusive, are fitted with crossflooding pipes between the outboard wing explosion spaces, so that in the event of damage on one side causing the flooding of an outboard space, the corresponding space on the other side will flood automatically, thus keeping the vessel on an even keel.

6. In the ships of the *Tennessee* and *Maryland* classes crossflooding pipes were not provided. With the system of underwater protection adopted, the wing compartments are small and very numerous, and the installation of crossflooding pipes would have been impracticable even if considered desirable. Fuel oil is stowed in these outboard compartments along the sides, and tanks not filled with oil can be flooded with water. This fuel or water can be moved from side to side or from compartments at one end to compartments at the other by air pressure. In this way list or changes in trim can be rather readily met. In the General Information books of these ships the subject of meeting and overcoming heel and trim is gone

into more fully than in any previous classes; a complete list of compartments which may be flooded is given, and for each of these compartments the value in tons of water, the increase in draft of the ship resulting from the flooding, and the change in trim or list resulting from the flooding.

7. The underwater subdivision adopted for battleships *49* to *54* and battle cruisers *1* to *6* was of the same general character as that of the *Tennessee* and *Maryland* classes. As a result, however, of lessons from the war, the specifications and plans for these vessels provided for distantly controlled, hydraulically operated flooding valves for all wing compartments, the controls for these valves being concentrated in flooding stations on the third deck. However, under the terms of the treaty limiting naval armament, these ships are listed for scrapping, except the two battle cruisers *Lexington* (CV2) and *Saratoga* (CV3) now being converted into aircraft carriers.

8. The past few years have seen a great improvement in the design and power of torpedoes, mines, and bombs, and more frequent and more severe underwater damage may be expected in the future than has been experienced in the past. While improved watertight subdivision will permit the ship to survive a more powerful attack than was formerly the case, it is not always possible to avoid a severe list following the damage, and the loss of efficiency resulting from the difficulty or impossibility of bringing the guns to bear, remains the same as before. It follows that the more effective the watertight subdivision in localizing the damage and keeping the vessel afloat, the more important becomes provision for effective counterflooding.

9. Up to the time of the war, the installation of crossflooding pipes was considered to be good and satisfactory practice, both by our own and by the British Navy. The sinking of the *Audacious*, however, showed that this practice might be undesirable. She was struck aft by a mine and very considerable flooding resulted locally from the immediate effects of the explosion and leaky bulkheads and doors. In addition, spaces on the opposite side of the ship flooded automatically through the crossflooding pipes. This counterflooding increased the trim by the stern, which, under the existing circumstances was a serious disadvantage and contributed materially to the loss of the vessel. What was required in this particular case was the counterflooding of compartments on the opposite side to correct the list, but forward to correct the trim. Lack of flexibility is inherent in any automatic system sufficiently simple to be reliable. The compartments must be selected in advance and may not be the most effective compartments under the conditions actually obtaining at the time the damage is received.

10. In view of the above circumstances, the bureau is of the opinion that development should be along the lines of a counterflooding system under the control of the operating personnel. Counterflooding systems actually available on vessels in service are less effective than those proposed for installation on vessels of later design, and some improvement of the means for counterflooding in the earlier vessels should be undertaken. The bureau is of the opinion that the first step is a careful study by the fleet of the means for counterflooding now installed, in the light of the information available from the reports collected by the Office of Naval Intelligence and supplemented by such actual tests as are practicable. In making recommendation for changes, it should be kept in mind that it is preferable both on the score of cost and loss of service of the vessel, to improve the present system where this is practicable, rather than to install a new system. It should be further borne in mind that any increase in the amount of piping and valves, while it might facilitate counterflooding, would be a source of added danger in case of underwater damage, in that the presence of these pipes might cause compartments to flood that would otherwise have remained intact.

11. The bureau will be pleased to receive the results of any studies and investigations made aboard ship, and from these results will develop the necessary modifications in the designs of the counterflooding features of the battleships of the fleet.

GERMANY.

DORNIER ALL-METAL FLYING BOAT.

March, 1923.

The following description has been obtained from Herr Dornier, the designer:

It is understood several of this type have been sold to the Spanish Government and possibly to the Italian Government. The first two have already been successfully delivered by air. The side buoyant wheels for landing are novel and entirely successful, but appear unnecessary where adequate landing facilities are available. It is understood this is not the case at Pisa. The apparently efficient application of tandem propellers is notable.

In designing this type we had in mind a military airplane suitable alike for long-distance scouting at sea and for bombing work. As foundation, we had our long years of experience gained with our multiple-motored flying boats delivered to the German navy during the war. For long-distance scouting at sea, it is not so much a question of being able to reach high altitudes as the possibility of covering long distances with a good average speed. The airplane on a long flight at sea is thrown entirely on its own resources and its machinery

must therefore be especially trustworthy. Two motors are therefore used, either one of which is sufficiently strong to keep the airplane in the air. If the airplane is to be sufficiently seaworthy in landing and maneuvering in the high sea, then the body of the boat must be comparatively large and have sufficient stability in order to prevent any damage to the lateral supporting floats which are always endangered when the sea is running high.

The airplane must also possess sufficient military properties in order to be able to hold its own against the enemy antiaircraft during an attack.

Our two-motor flying boat *Wal* represents an ideal type of airplane in the above respects.

This flying boat, developed as a monoplane, has a stable and strong body, possessing great seaworthiness on account of its form. The wing is sufficiently high above the boat to be always safe from the waves when the sea is running high. The two motors are arranged in tandem in a car in the center above the wing. The fuel tanks and the bomb-launching apparatus lie directly beneath in the immediate proximity of the center of gravity. This very admirable concentration of the main weights gives the boat maneuvering properties to a degree not yet attained in large airplanes. The air propeller is in such a position that even when starting in a high sea no damage is done through the sea water.

A machine-gun stand with an admirable firing range is arranged in the bow of the boat, and there is also a second one behind the wing for use in defense against rear attacks.

The flying boat is made entirely of metal, with the exception of the wing covering and the steering gear. All the parts that are subjected to heavy strains and represent a factor of safety are constructed of high-class steel; all the other parts are made of duraluminum. The factor of safety under a normal load represents six times the flying weight.

In order to insure a good start and landing, the boat has two steps, the latter of which is a more pronounced keel. Our patented lateral fins are located on both sides and insure stability on the water and simplify the start at the same time. In order to preserve the buoyancy even when the boat has been damaged the body of the boat and the lateral fins are subdivided by water-tight bulkheads.

The boat is constructed in our tried form with web frames and planking with flat duraluminum.

The main frames in the middle of the boat are especially strong and are reinforced with steel, as the greatest strains arise at this point.

The interior of the body of the boat is everywhere accessible through manholes located in the bulkheads and which can be closed perfectly water-tight.

The bottom of the boat is reinforced by a number of profiles running longitudinally, and these also protect the planking from damage when the boat is being hauled on the strand.

In the front of the boat is the observer's seat with movable machine gun; behind this is the pilot's seat with a seat for the machinist beside him, and if desired, a second steering gear can be installed at this point.

The fuel tanks and the bombing device lie behind this in the proximity of the center of gravity. The steering gear is at the end of the boat.

Wing.—The wing has a ring-angle form with slightly rounded corners. It is not completely free but rests against the boat by means of two rods.

It has two beams or runners, constructed of steel in the form of square-framed girders. The ribs are made of duraluminum. The covering consists

of the best airplane linen with several coats of cellon. The balanced buckling valves are at the ends.

Steering gear.—The steering gear consists of a keel and stabilizing fin with attached rudders. The rudder is balanced. The rudders (elevator and rudder) are actuated by means of foot and hand gear. The ropes consist of steel parts of the best quality, arranged so as to be easily controlled, and are situated well to the inside. Ball bearings are used exclusively in the rope rolls.

Motor parts.—Aeronautical motors of between 250 and 400 horsepower can be used for propulsion. As both motors are equally distant from the center of gravity, there is no alteration in trim as the result of the change of weight of the motor parts. In the planes built up to this time two Hispana Suiza motors of 300 horsepower were used, giving the indicated performance.

The performances attained with the 350-horsepower Rolls-Royce and 400-horsepower Curtiss C 12 are also given. As we are not familiar with the exact performance of the latter types, we therefore can not guarantee for the exact speed held and for the climbing period.

The two motors are built in the motor car located above the wing and are easily accessible. As they are also accessible during the flight, it is always possible to look after them and inspect them in the best possible manner.

Cooling.—The two nose coolers are located in accessible places in the middle between the two motors. Both coolers can be used for the cooling of each individual motor in the event of the failure of one of the motors, so that too high a temperature of the cool water can be avoided.

Fuel.—There are four benzine tanks made of brass plate in the boat, which carry sufficient fuel for 6½ hours. The fuel is conducted to a gravity tank located in the motor car by means of a fan-blade pump, and from here it is led to the motors. The oil tanks are located in the motor car.

Armament.—The flying boat is equipped with a bomb-launching device permitting 900 kilograms of bombs to be carried. The form, size, and number of the bombs to be carried depends on the wishes of the person ordering the flying boat. The boat is equipped with two revolving rims for movable machine guns, one of which is installed at the bow of the boat and the other behind the motors.

Equipment.—A tachometer, a compass, two gauges for the number of revolutions, a speed gauge, a fuel (benzine) indicator, and a clock are included in the equipment of the flying boat.

Towing device.—To simplify the towing of the airplane on land we have instituted the following device which has given good satisfaction. This can be delivered separately if desired. It consists of two wheels of 1.7 meters diameter and 0.4 meter width, which are made of metal (hollow) and float in the water. They are attached to the two lateral fins by means of an axle (pipe) on the bearing. The airplane is then in a position to roll on land by its own power. The wheels are attached in the following manner. The axles of the wheels and key are stuck in the fin by means of a rudder boat and the wheels brought out in a vertical floating position by means of an auxiliary axis. The latter is now pushed part way in the hollow iron axle, and the wheel, by means of turning and pulling, is pushed on this and can then be fastened. The wheels are taken off by following a reverse course.

Dimensions of the Dornier large flying boat *Wal:* Length over all, 17.25 meters; span 22.5 meters; maximum height, 4.8 meters; wing area, 96 square meters.

Weights and flying performances with various motors.

	Two 300-horsepower Hispano-Suiza.	Two 360-horsepower Rolls-Royce.	Two 400-horsepower Curtiss C 12.
Weight, empty, including cool water.....kilograms..	2,850	3,100	3,000
Normal load.....do....	1,360	1,600	1,700
Normal flying weight.....do....	4,150	4,700	4,700
Maximum load permissible.....do....	1,900	1,900	2,000
Maximum speed.....kilometer hours..	175	185	195
Minimum speed.....do....	100	108	108
Climbing periods to—			
1,000 meters.....	8	6	5
2,000 meters.....	19	12	12
3,000 meters.....	40	22	22

GERMANY.

"ZR–3."

April 7, 1923.

Prepared by the Bureau of Aeronautics.

The size of this airship is the same as the latest airships built by the Zeppelin company at the end of the war, namely, a gas capacity of 70,000 cubic meters. The *ZR–3* has, however, been designed specially to accommodate passengers, and special attention has been directed to all factors involving strength and safety.

The general dimensions of the ship are as follows:

Over-all length	200	meters (656.2 ft.).
Maximum diameter	27.64	meters (90.7 ft.).
Maximum width (propellers horizontal)	27.64	meters (90.7 ft.).
Maximum height (including landing buffers)	31	meters (101.6 ft.).

The total horsepower of the airship is 2,000, which is obtained from five Maybach engines of 400 horsepower each. Each engine is contained in a separate power car. These power cars are distributed along the under side of the ship and supported to the airship's framework by means of wire cables and struts.

The engines, which have been designed and constructed by the well-known firm the Maybach Motor Co., have been designed for the greatest possible endurance, so as to give the airship the greatest possible cruising radius. They are of V-form and have 12 cylinders. A new feature has also been introduced in that the engines themselves are reversible, thus doing away with the weight of reversing gears. This same feature was introduced in the engines designed for the United States Navy submarine chasers during the World War.

The passenger cabin is designed to take care of 20 passengers on long flights, arrangements for cooking and sleeping being provided. For short flights, a maximum of 30 passengers can be carried. The

equipment of the passenger cabin is quite luxurious and compares favorably with the finest American Pullman cars. It contains a modern kitchen, equipped with electrical stoves. The guest room is divided into five compartments, each compartment seating six persons comfortably; normally, however, four persons will be seated in each compartment. The windows are large, so as to enable the passengers an excellent view of the world beneath. Travel under these conditions will be as luxurious as modern science can make it. The passengers will have none of the discomforts of other methods of transportation—no dirt, no vibration, and no noise, none of the discomforts of sea sickness or train sickness. The motion in a large airship is unappreciable, and there are no other discomforts to detract from the pleasures of the journey.

CRUISING RADIUS.

Under favorable conditions—that is, considering no contrary winds—it is estimated that the *ZR–3* will have the following normal radius:

Number of engines.	Speed.	Radius (miles).	Time (hours).	Corresponding to distance between—
5	Full speed	3,480	46	Washington-Liverpool.
5	Two-thirds or cruising speed	5,220	78	Washington-Buenos Aires.
5	One-third speed	6,387	123	Washington-Cape Horn.

The above estimate is based on the requirement that two hours' fuel supply remain on board upon arrival at destination.

For the trans-Atlantic flight from Friedrichshafen on Lake Constance to Lakehurst, N. J., additional fuel will be carried on account of the unfavorable weather and contrary winds which are always to be expected in crossing the Atlantic from east to west. Meteorologically, of course, the summer is the most favorable time for such a flight, but as fall begins the Atlantic becomes more and more stormy, and under these conditions the southern route across Spain and the Azores to Florida is the most favorable. Naturally this route is longer, but the flight will consume less time than if the northern great circle course is taken and strong head winds encountered throughout the passage. Except for the delay caused thereby, an airship of the size of the *ZR–3* has no more to fear from storms than do the giant trans-Atlantic liners. The airships built by the Zeppelin company have been of rugged construction, and considering only their commercial flights, have been of outstanding success. They have made a total of 1,691 commercial flights and carried 36,608 passengers without an injury to any passenger.

The *ZR–3* is now nearing completion, and it is expected that within a month or so she will be ready for her trial flights. These flights

will be carried out with the Zeppelin company's crew, all members of which have had vast experience in handling large rigid airships. The Navy Department will have representatives on board during these flights to observe the trials. Following the satisfactory completion of these trials the trans-Atlantic flight will start as soon as conditions are favorable. United States Navy personnel will also be on board acting as observers during this flight. The complete responsibility for the safe delivery of this ship at Lakehurst, N. J., has been accepted by the Zeppelin company.

The *ZR–3* has been designed and constructed solely for commercial purposes. The United States Government is acquiring it for the purpose of demonstrating to the American public this method of transportation. After a thorough demonstration under all conditions it is not at all unlikely that the United States Government will be able to induce some commercial company to operate this ship commercially, and by adding other ships of its own start a commercial airship line in the United States. At least the public will be able to judge for itself the value of commercial airship transportation.

GREECE.

GENERAL SITUATION.

January, 1922.

Although the following article is based upon the observation of conditions obtaining in Greece some months ago, it is generally pertinent to the present situation.

1. THE POLITICAL SITUATION.

It appears now that the revolutionary Government has determined to remain in power and that the present military cabinet will be maintained. The effort to obtain the collaboration of political men of prominence has practically failed, and efforts in that direction have seemed to cease. The present Government also seems to better suit the ideas of the members of the revolution. They are convinced of the necessity of maintaining themselves in power by force if necessary, and this can best be done by simply allowing the present situation to continue. This they can well do under the cloak of national necessity, in view of the danger of the reopening of hostilities. The talk of elections has ceased, and they now seem far off. The truth is that the members of the Government are decidedly afraid to risk elections. Their supporting political parties are disorganized and quarreling among themselves and offer little chance for success in elections.

The revolutionists feel that they can remain in power so long as they can keep up the idea that they are necessary for the national safety and so long as they can retain their hold on the army. Their control of the army was felt to be so necessary that the real leader, General Pangalos, has personally taken command of it. The president of the cabinet, General Gonatas, has also taken the post of minister of war, so that he can personally see that all of the needs of the army are given first preference so as to keep them contented and enthusiastic for the movement. They point out that the revolution has been the means of saving the nation and that they must remain in power until the purpose and program of the revolution are assured.

It is therefore quite likely that the present régime will continue until the result of elections is assured or a counter-revolution comes to upset it. The possibilities of a counter-revolution have not yet disappeared. In fact, there are still evidences of the formation of one, particularly in the navy, also an indication that those in power realize the possibilities and dangers of a new revolution, in that they are fast filling their pockets from the public treasury in a reckless and almost open way. The moment a change of régime comes all of those connected with the present one will have to make a quick get-away in order to save their lives and must have their pockets filled in preparation for a protracted stay abroad. Thefts of all kinds are going on, both in the letting of contracts for supplies and in the handling of supplies after they are received. Public outcry against such procedure has already commenced. Such action on the part of public officials is more or less expected in this country, and its knowledge brings about a slow reaction.

As regards political parties, the chief interest centers in the attitude which the Liberal (Venizelist) Party is going to take. It is in this party that the present government find its greatest number of supporters and, unless old party limits are broken up, the present régime could not remain, unless that party could succeed in the elections. To their embarrassment, a split has appeared in the ranks of the Liberal Party. This has come about chiefly on the question of the King. A number of prominent Liberals have announced themselves as in favor of a republican form of government, and have formed about themselves a group which is spoken of as the Liberal-Republican group. The real leaders of the party have realized that this split is a serious weakness and are endeavoring to cover it up. However, they dare not declare themselves on the issue and are trying to avoid any mention of it, but the opposition keeps demanding an answer from them as to what the attitude of the Liberal Party will be on that question.

The Liberal Party is already in the minority, and with this split appearing would be hopelessly lost in a general election. The opposition, while not well organized, is capable of so doing when the proper moment comes by declaring that it has put aside all ideas of Constantinism and is for the maintenance of a constitutional government under the present King. With such a platform it would be hard to defeat, as it would tend to rally supporters rather than lose them and is naturally in a majority. One hope of the Liberals and the revolutionary crown is in the possibility of voting all of the refugees. A decree is now being prepared by which suffrage will be accorded to the refugees and elections will probably not be held until they have fulfilled any requirements which may be stimulated in order to give them the right of suffrage.

As regards their foreign relations, Greece was never in a worse predicament. It has always been lacking in real friends, and is now particularly so. They have made a great effort to regain French friendship, but it is very doubtful if anything substantial has been accomplished in that regard. In playing up so strongly to the French they have lost a good deal of their place with the English. With diplomatic relations broken off with England they are in no position to demand anything from her, and can only hope for such that England might decide to give. England's hand is now absolutely free as regards the Greeks. They try to fool themselves into the idea that they have some substantial friends in their Balkan neighbors, but it is believed that they were too optimistic in that regard. When they were in their greatest distress they made overtures to the Serbs in order to insure their friendly support, but as soon as the temporary danger was passed they in true Greek fashion found a way to get out of their promises and will probably not renew their overtures in that direction unless they again feel in need of support. This refers particularly to the negotiations regarding Saloniki.

During their moments of danger they went to the Serbs and offered to arrange the difficulties regarding the Serbian rights in the port of Saloniki which had been causing annoyance to the Serbs since the first negotiations in that regard in 1914. The Greeks promised to arrange everything to the satisfaction of the Serbs. However, when the moment of danger seemed to have passed the Greeks offered to the Serbs arrangements which did not agree with the propositions they had made and which have proved to be unsatisfactory. The Greeks are keeping the thing alive by negotiations, but will probably not meet the Serbian demands unless they fail to get the expected support from England or France and again will need Serbian help. This act on their part has not tended to cement the ties of friendship, but has only increased Serbian distrust in Greece.

2. THE MILITARY SITUATION.

Most interesting is the attempt on the part of the Government to revive the military spirit in the Greek nation. It would seem unbelievable and unsound in view of the recent military disaster that the Greeks should again want to rush to war and risk its consequences; but nevertheless the present military Government has, for several reasons to be explained later, flooded the public with propaganda in which they show that war is inevitable; that it may be the only way of saving the nation from its present desperate condition. By showing the country the dangers of a war they have created the lever whereby they can raise the drooping spirit of the people and of the army. The first work of the revolutionary committee was, therefore, to reorganize the army and revive its spirit. To this end the committee bent every effort, and it must be admitted that they have succeeded to some degree. At first the crying need was to reorganize the army for defensive purposes in order to save Thrace, and later to prevent any further advance of the Turks in the direction of western Thrace. Now they feel that that phase is past, and they are attempting to give it an offensive spirit. How sincere and how sound their ideas are will be discussed later; but it must be recognized that at present the Greek people are being told by every possible means that the army is ready and willing for offensive action. The Government in every interview gives out the statement that the army has been reorganized and is ready for any eventuality; that the spirit of the troops and the people is entirely revived. They point out to the people everything which would indicate that the morale of the Turkish Army is weakened and its strength disintegrating in order to revive hopes and indicate the possibility of a successful turn in a military way. The press has taken up the same attitude and carries leading articles every day in which they try to show that the situation is now changed; that the Greek Army is ready and strong, and that Greece should not accept any peace terms unfavorable to them, preferring to go to war than to give up their national rights. Everywhere one goes there is talk of the certainty of war. The general staff gives it out that the army in Thrace is demanding war for revenge and to wipe out the blot upon the history of the Greek Army. General Pangalos in taking command of the army of Thrace made a speech which was well circulated in which he pointed out that the army was now ready to exert the necessary force to defend the rights of Greece and was in a position to master the enemy, which had become emboldened on account of the disaster in Asia Minor. He stated that he was firmly convinced that the entire Greek Nation had joined in the spirit of the revolution, and that the nation should reorganize itself in a military way at all costs.

He stated that he and the Government were satisfied with the results obtained. This flowery speech ended with the stupid remark that he was sure that the Greek Army would not now again desire to shoot its commander in chief. All of this militant propaganda was commenced, as stated above, for the purpose of reviving the spirits of the Greek Nation and enabling the Government to recognize the army for defensive purposes. For that purpose it was necessary to make war talk in order that the people should respond to the effort.

It would require a person with a gambler's mind to hope for success in new offensive military operations under the present conditions in Greece or desire to see operations reopen at all. The real danger in it all exists in the fact that the Greeks always allow themselves to be carried away by any sort of success. There is a characteristic of the Greek people which has constantly shown itself and which is pertinent to the present situation. That characteristic is that the Greeks think that they can convince anybody of anything, but in the end the only persons they convince are themselves. A Greek will commence an argument which he knows to be unsound, but after arguing for a while he will offer such convincing proof that he convinces himself that the whole thing is good. That seems to have been the result in this case. The Greeks have talked preparedness until they now think that they are prepared. They have talked of the ability of the present Greek Army to impose its will on the Turks until they now believe that it is perfectly feasible.

Another source of danger in the present situation is General Pangalos himself. General Pangalos is a very bright and capable officer, with a great deal of energy and determination and has been a good factor in reorganizing the army. He is, however, dangerously ambitious and very confident in his ability. Every Greek general wishes to become a second Alexander the Great. He is therefore not incapable of undertaking some stupid enterprise. The whole Government being in the hands of young and ambitious military men increases the danger in that respect.

It has been evident to everyone that all of this war talk and bluff has been for the purpose of influencing the opinion of the Allies regarding Greece. They wish the impression to be created at the peace conference that Greece has reorganized, is again strong, and in a position to be deserving of support. Everything is made to look as big as possible for the effect it might create. Bluff is everywhere apparent. The army is made to look as big as possible by retaining all the combatant organizations possible, which have been retained as skeletons or have been filled with young and inexperienced men, armed with worn-out or obsolete weapons, all for the purpose of making a bold front. Behind this front there are no reserves either in material or men. One must admit, however, that they have done

their best to make a showing with the limited material that they have and in so short a time.

Thus in the end one must consider that for the most part all of this noise and talk of war is for the purpose of gaining such results as possible from their bluff, the only real danger being in the possibility that the Greeks may allow themselves to be carried away by an adventure.

There is no doubt that all of this has had a good effect on the army. The talk of war has somewhat revived the militant spirit among the troops and has given an impetus to everyone to hurry to effect the reorganization. The firm and relentless hand which the revolutionary committee has exerted has likewise had a good effect on discipline in general. While one can not at all say that good discipline has been reestablished, however, a wholesome fear has been instilled into many, which has had a good effect. Deserters have presented themselves in large numbers and desertion has for the moment practically stopped. Good discipline never really exists in the Greek Army, but the Greek soldier will respond to a wave of enthusiasm, and this wave has been fairly well established by the propaganda above mentioned. It is, however, too soon to expect any wonderful change in the hearts of those who have so recently undergone such a disaster.

The army as it exists to-day is composed of the three corps comprising the army of Thrace, in which there are nine divisions which are considered as being capable of giving combat. Behind the army of Thrace is the first corps, which is simply a skeleton and is lacking both in material and men, and the fifth corps, which is in Epirus and is composed of only one division which can not be moved from that district. The whole totals about 120,000 men, of which 80,000 are in the army of Thrace. Everything has been given to the army of Thrace in order that it shall be as strong as possible, but even after all of this effort it consists of only a shell, for the reason that it is entirely lacking in reserves of ammunition and material which would be necessary to make up the first losses.

One must, however, give the revolutionary committee credit for having re-created out of the chaos an army which has at least a workable organization and has turned over to it all of the supplies which are available. Effort is being made in all directions to obtain the needed supplies for distribution and for the creation of reserve stocks. The depleted condition of the treasury, however, makes that process very difficult and slow.

General Pangalos has instigated a much-needed work in the weeding out of worthless officers. In so doing a good deal of political favoritism has no doubt crept in; but, on the other hand, the fearlessness of the revolutionary committee has had the good result of

setting aside those who are incapable and replacing them with young officers of experience. The fact that plucking is taking place has had a good general effect throughout.

One feature which has a decided effect on the morale of the army in general is the fact that it is now commanded almost throughout by officers who have never been defeated by the Turks in battle. Practically all of the general officers have commanded troops in actions against the Turk and have known only success. This factor alone has done much to restore confidence in the troops and make possible the creation of an offensive spirit. Many of the Greeks feel that under those officers success is almost assured.

In summing up one must recognize that the Government has succeeded in reorganizing the army and putting it on a working basis; that they have gathered out of the remnants of the Asia Minor disaster the strength of the five youngest classes, consisting of about 120,000 men, and have assigned them to their units; and that the strength of the army has been concentrated in the army of Thrace, which is in a position to give the best effort of which the Greeks are now capable. All of the material available has been concentrated in that army. The morale of the army has been decidedly improved and discipline has to some extent been reestablished. The command of the army is in the hands of young, experienced, and ambitious officers. The only criticism which can be made in regard to the command of the army is in the fact that several older and very capable officers have been set aside in order to make room for General Pangalos to be the commander in chief. The greatest deficiency in the army is in the question of training and supply. The two youngest classes, those of 1922 and 1923, and which make up half the strength of the army, were both rushed to their regiments without sufficient training. Whether these troops will ever get proper training is doubtful. The question of supply will continue to be bad, unless some larger nation, such as England, should suddenly become interested in the use of the Greek Army and furnish it with the necessary supplies or the credit wherewith it can purchase them.

It is always fatal to attempt predictions in Greece. The Greek has an oriental mind and generally does the unexpected. Although not impossible it is not expected that he will act alone in reopening hostilities. The hope of the Greeks has been that the Turks by their stubbornness at the Lausanne conference would cause the negotiations to break up in such a way that the Allies would feel compelled to force their decision on the Turks and would again call on Greece to aid them in that purpose, in which case the Greeks would march again alongside the Allies and would receive from them the much-needed credits and supplies. Their aim has been to have the army ready to be offered in such an eventuality. This position is clearly

reflected in the stock market in that each time there is a report of a threatened crisis at Lausanne the Greek money takes a decided rise in value, only to fall again each time the crisis passes.

The signing of a peace treaty under the present conditions will be considered as a disaster in spite of the great need of Greece for peace. A break up of the conference resulting in an armed peace or a re-creation of the situation which has existed during the past years, in which the big allies have stood by awaiting events, would be equally as disastrous. The thing which the Greeks want is a break in the conference in which one or several of the powers will declare war on Turkey and in which they will be invited to join.

The Greeks are all convinced that there is bound to be a new war of some kind which will help to bring them out of their difficulty. They are looking for, and one might even say hoping for, a reopening of the hostilities on a large scale, which will be instigated by the Russians and in which the Turks and Germans are to join.

The question of the Patriarchate is one of prime importance to the Greeks and has a decided effect in its relation to their military and political policy. The goal of every Greek is Constantinople and St. Sophia. The fact that the Greek Patriarch is still in Constantinople keeps alive this hope that in the end ancient Byzantium will be recreated and that masses will again be said in St. Sophia. This waving of the cross in opposition to the crescent is the basis of keeping alive the national enthusiasm to oppose the Turk. It is by means of giving the war against Turkey a religious character that the priests can work their propaganda with the simple peasants. The Greek business men and politician can see the commercial advantage of having Constantinople, but the mass of the people are shown the religious necessity of regaining it. The English realize the necessity of keeping that fire aglow and are suporting the Greeks strongly in that regard at Lausanne. It is believed that the same thing is shown to the Russian peasants in order to keep alive their desire to regain Constantinople for the same purpose.

The Athens press is inclined to talk a good deal about the substantial military aid which will be given by her friends and allies, the Serbians and the Rumanians. It is believed by me that the Greeks entirely overestimate the amount of friendly interest and concern which those countries have for the fate of Greece. I know that the sentiment in Serbia has never been at all friendly to her southern neighbor, especially since her betrayal in 1915. In fact all of the Serbs heartily enjoyed watching the Greeks get trimmed in this last affair. I have also been repeatedly assured that the Serbians have no intention of doing anything in a military way, unless the Turks should cross western Thrace and threaten Saloniki, in which case the Serbs will attack the Turks in order to save

Saloniki; but it is also my belief that in that event Saloniki will be taken by the Serbs for themselves and not for the Greeks. I have even been shown a line on the map to which the Greeks will be invited to retire and to have for their northern frontier. That line is the line of the Vistrisa River, which river even now has a good Serbian name.

The ground in Thrace is now covered with snows and mud, and the condition of the roads forbids the likelihood of any operations on a large scale to recommence soon. The negotiations are also likely to drag along until spring. By that time the situation should be more clear and one may be able to determine what the attitude of England will be. Again, as in the past, the future almost entirely depends upon the action of England, and out here one can only guess as to her intentions.

LATVIA.

NAVAL BUILDING PROGRAM.

February, 1923.

The following shipbuilding program is to be carried out by Latvia during the next four years, according to reports:

Four destroyers, 900–1,200 tons displacement; speed, 30 to 40 knots; radius of action, 1,000–1,500 miles. Armament: Two or three guns 100 millimeters, not more than 100 calibers long, one gun 75 millimeters, antiaircraft, and four to six machine guns and two or three instruments for launching torpedoes of 450 millimeters.

Four submarines, 300–400 tons surface displacement; speed, 13–16 knots on surface and 8–10 knots submerged; radius of action, 1,000–1,500 miles on surface and 80–100 miles submerged. Armament: Four torpedo tubes, 450 millimeters, one antiaircraft gun, and three machine guns.

Two mine layers, 150–250 tons; speed, 14–16 knots; radius of action, 500–800 miles. Armament: One 75-millimeter antiaircraft gun and two to four machine guns.

RUSSIA.

CONDITIONS IN ODESSA.

February, 1923.

As far as could be learned in Odessa, the general situation and disposition of the army remain in almost a status quo.

Since January of last year the clothing and food supplied to the soldiers has improved a great deal, but at best it is very poor. The

ration consists of two meals a day, and is usually of poor bread, meat, soup, and tea; but last year the soldier was fortunate to obtain one meal. The clothing and equipment is largely made in Russia, but is of very inferior quality. For example, the shoes, I am told, will be falling apart after two or three weeks' wear, the quality of the workmanship is so poor. The general impression also prevails that the amount of equipment in store and the producing capacity of the factories and munitions works would be able to support only a short campaign in time of war.

But far worse than the equipment is the morale of the troops; in fact, there is no morale, and the ordinary soldier, stupid though he is, is one of the most disgusted men in Russia to-day. Dissatisfaction is everywhere in the ranks, but this is limited to speech and not action, by the iron discipline which is maintained. This discipline and severe punishment of minor offenses as well as the reinstallation of the officer and enlisted classes is simply a return to ultramilitary practices. The relations between officer and man are much as they were before the war. The officer in addressing the man refers to him as "tavarish" or "comrade." The man in speaking to the officer addresses him as "comrade company commander" or "comrade regimental commander," etc., according to the rank—the "comrade" being the ironical feature of the salutation. The matter of officers' dress is also reverting to pre-war custom. At the beginning all marks of distinction between officers and men were abolished. Last year a system of officers' markings was established, the rank being according to the number of stripes worn on the lower right sleeve. Now some of the marks are worn on the upper arm, and to judge by the upward trend they will soon be back on the shoulder, from where they were so madly torn five years ago. At the beginning of the revolution officers and men of the army and navy were required to mess together, and great was the spirit of proletarian comradeship. To-day the messes are quite separate and as individual as they were in pre-war days. All of these facts point to the reversion to ordinary military principles and practices and the abolition of all communism from the military forces.

The morale of the men is so low that I have repeatedly heard it stated that they would gladly turn against the Government if they could have a leader, and that they most certainly will do so in case of hostilities. And the majority of the officers have either the same spirit or else are too cowardly to resist. It seems that the opinion in Russia regarding the red commanders (as the officers are called) is that in time of action they would think of Falstaff, and endeavor to "live to fight another day." Many of the older officers are efficient and are serving, partially because of compulsion, and partially because

they see it their duty to serve Russia regardless of the Government in power. But most of the younger officers are Jews and have had little or no experience in their duties and have no military character.

It is largely because of the practical worthlessness and unreliability of the army that the Soviet Government does not desire a war. The opinion among people in Russia is that the government will do all that it can to avoid a major war because of the very characteristics of the morale of the army described above. The people, on the other hand, while they do not desire a war with any power because of enmity toward that power, would welcome a war for the war's sake, as they see in that the inevitable overthrow of Bolshevism in Russia. This is the opinion as held by the Russian people of any intelligence in Russia to-day. And quite naturally, those with the power of the government in their hands, seeing this same fact, do not desire a major conflict. Perhaps the only exception to the statement that the people do not desire a war because of enmity toward the nation is in the case of Rumania. Here the people feel a national and a Russian grievance (as distinguished from a Bolshevik aim) in the loss of Bessarabia. If the Bolshevik Government could localize the conflict (which they realize they could not), opinion is that they would gladly go to war with Rumania, because here is a national cause. Rumania could be overwhelmed and the power of government strengthened and the morale of the army improved. Especially in the Ukraine this feeling against Rumania is very strong. But in Rumania the feeling toward Russia is of entire indifference. There is apparently no idea that some day Rumania will have to fight to keep Bessarabia, and the frontier situation seems to be utterly ignored. Rumania gives the impression of being so puffed up with her territorial acquisitions that her head is turned and she has lost the sense of danger which threatens from the north.

The daily press is full of the acute situation on the Ruhr and of the French military action, and all papers state that if either Germany or Turkey are drawn into a war Russia will most certainly go, too. But this is taken generally as more or less of a "sword jingling" policy. And if either of the above nations were to go to war Russia's aid might be more or less passive or a "moral support," but, again, as stated above, she would hesitate to actually go in the field, because Moscow is thinking primarily of itself. This point of view of the Government can be better appreciated when it is further realized that the ultimate aim of the Bolshevik oligarchy is not the defeating of the French, nor the defending of Turkey, nor the support of a German-Russian-Turkish alliance, but that it is revolution in western Europe. To accomplish this final objective indirect methods may have to be used, but it appears that the final criteria of Russia going to war is the question of aiding a revolu-

tionary outbreak in Europe—encouraging revolt abroad while maintaining the fruits of the revolution at home.

There had been some reports received in Constantinople relative to Bolshevik Army division movements toward the Rumanian border. In Russia all such movements, of course, are kept very quiet; but if any of importance had taken place I feel certain that my informants would have known about them. It appears that although there has been something in the air relative to the movements, and some rumors that there has been trouble along the Rumanian or Polish borders, yet nothing is definite enough to make it of any seriousness; and what there has been may have been due to the pursuance of the sword-rattling policy.

In regard to the troops of which my informants had definite information, they seem to be very much in a status quo. Those around Odessa are continually engaged in drills, but there have been no maneuvers or no mass movements. It is interesting to note that the Bolshevik Government has adopted a definite plan of stationing troops in other districts of Russia from those in which they live. This is generally as follows: Troops from the Ukraine and south Russia are sent to the Crimea and the Caucasus, troops from the Caucasus to north Russia, and north Russia men to the Ukraine and south Russia. This is done because the Government feels that in case of a revolt in any one district it may be more surely stamped out by soldiers from another.

RUSSIA.

MILITARY AGREEMENT WITH GERMANY.

March, 1923.

The following are extracts from a report recently received:

This last month while on leave I called on an agent of the old Russian Government. I was provided with a letter of introduction to this gentleman, and was assured of his absolute reliability. Among other things I requested information from this agent in regard to the German-Bolshevik relations, and, in particular, regarding the purported German-Bolshevik military agreement. But, most important of all, this agent told me that they (the old Russian Government organization) knew that a military agreement existed, and that he had received a copy of this agreement. His copy of this agreement was written in Russian, but he read me a translation of it, and afterwards, at my request, promised me a copy. Attention is invited to the fact that the existence of this agreement has been repeatedly denied by both the Russian and the German Governments.

A copy of the agreement has been received, and the translation is as follows:

The following agreement has been drawn up on April 3, 1922, in Berlin by the plenipotentiary representatives of the general staff of the Russian Red Army (R. K. K. A.) and the plenipotentiary representatives of the German General Staff.

The plenipotentiary representatives of the general staff of the Russian Red Army: Citizen Novitzky and Citizen Stefanoff.

The plenipotentiary representatives of the German General Staff: General of Infantry von Zeekt, Admiral Benke, Colonel Scharf, and Major Petter.

The plenipotentiary representatives exchanged and verified their papers of authorization, and, finding them sufficient, concluded the following agreement:

(1)

The German General Staff undertakes to provide the army of the Russian Federative Soviet Republic (R. S. F. S. R.) with the arms and equipment necessary for arming and equipping 180 regiments of infantry.

The necessary arms and equipment must be remitted by the German General Staff in monthly intervals to the places of destination at the cost, responsibility, and use of the facilities of the German General Staff.

A third of all the arms and equipment must correspond to the Russian models (three-line rifle, model 1891), the remaining arms and equipment, German models (Mauser rifle). At the same time the German general staff undertakes to furnish on the above-mentioned conditions the amount of guns, field and heavy artillery necessary for the equipping of 20 infantry divisions.

This required quantity of arms is not foreseen by the convention of March 25, 1921.

(2)

The German general staff undertakes to aid the organization of the Russian military fleet on the Baltic and Black Seas by:

(*a*) Augmenting the cadres of German fleet instructors to the number foreseen by the convention of March 25, 1921.

(*b*) Reorganizing and instructing the personnel of the Russian military fleet according to the demands and experience of the latest practices.

(*c*) Undertaking capital repairs of ships of the Russian military fleet according to the plans of the chief naval department of the RSFSR.

(3)

The German general staff undertakes, besides the airplanes already furnished, to remit to Russia with the shortest delay possible 500 new airplanes Junker type, with the corresponding amount of spare parts.

(4)

The German general staff undertakes to furnish the technical units of the Russian Red Army with technical equipment, the amount necessary for 180 regiments of infantry. V. G. V. 81 undertakes also to remit 150 field radio stations.

(5)

The German general staff undertakes to instruct the staff of R. K. K. A. in the results of the latest experiments and technical inventions in gas attacks, and also undertakes to instruct in gas technic 60 Russian officers sent to Germany by the staff of the R. K. K. A.

(6)

The German general staff undertakes to send to Russia the necessary number of specialists—experts—to increase the production of war munitions in Russia, and also to equip and put in operation in 1922 the new ammunition works in Toula (second Toula factory), Samara, and Petrograd.

(7)

On its part the staff of the R. K. K. A. confirms in full the agreements concluded previously, that is to say, those of April 17, 1919, and March 25, 1921, which form one whole with the present agreement; undertakes to obtain from the government of the RSFSR the immediate transfer of the 20 war vessels from the Baltic fleet, according to annex 2 of the agreement of March 25, 1921. Having regard, however, to the present political situation, the above-mentioned vessels will remain in Russian ports.

(8)

The general staff of the Russian Red Army guarantees to the German general staff the possibility of transferring to Russia three German factories according to the choice of the German general staff, that is to say, one factory of flying apparatus and motors, one factory of gas warfare equipment, and one gun factory, on the condition that the army of the RSFSR will have the possibility of fully utilizing the production of the above-mentioned factories.

At the same time the general staff of the RSFSR will not prevent German officers and specialists from taking part in the work of the newly organized gun factories in Afghanistan.

(9)

The general staff of the R. K. K. A. undertakes to keep on the western frontier not less than 18 divisions of infantry and 8 divisions of cavalry.

Besides this, these divisions must be concentrated in the regions foreseen by the fundamental operative plan according to the agreement of March 25, 1921.

(10)

The general staff of the Russian Red Army undertakes to augment the traffic capacity of the Alexandrovsky and Nikolaevsky railroads to 12 trains in the 24 hours, before August, 1922.

Besides, the branches of the triangle Minsk-Moscow-Petrograd must augment their traffic in the same proportion.

(11)

In accordance with the political agreement, the German General Staff and the general staff of the Russian Red Army engage to elaborate a general plan which will open access to the Baltic Sea for Russia.

At the present time, in accordance with this agreement, a demarcation line is being drawn between the German frontier and the frontier of the RSFSR. This line passes through Soliss-Volmar-Ostroff.

(12)

The contracting parties engage to keep the present agreement secret.

The present agreement is drawn up in two copies, in the Russian and German language. In case of disagreement as to interpretation, the German text

shall be taken as binding. In confirmation of this the delegates of the contracting parties confirm the present agreement by their signatures and seals.

BERLIN, *April 3, 1922.*

For the Russian Socialist Federated Soviet Republic:

[SEAL.] NOVITZKY.
[SEAL.] STEFANOFF.

For Germany:

[SEAL.] VON ZEEKF.
[SEAL.] BENKE.
[SEAL.] SCHARF.
[SEAL.] PETTER.

COMMENTS ON THE VARIOUS CLAUSES OF THE AGREEMENT.

Of the officials signing for Russia, Novitzky is a Red army officer and is chief of the operations division of the Russian General Staff. Stefanoff's status is not certain but he is probably connected with some political bureau of the foreign office or the "Cheka." Of the German delegates, von Zeekt is chief of the German General Staff; Benke, commander in chief of the German Navy; Scharf, chief of the supply division of the German Army; and Petter, chief of the technical division of the German Army. The date of signature, it will be noted, is about two weeks before that of the signing of the treaty of Raffallo.

Clause No. 1: The arms and equipment required to be furnished by the German General Staff have undoubtedly been delivered to a large extent. Various reports of people recently coming from Russia all state that many new rifles and articles of individual equipment are to be seen with the troops and that many of the rifles are of German pattern. Attention is invited to the fact that in the fulfillment of this and subsequent clauses, involving the furnishing of munitions by Germany to Russia, that this can be done by German factories on Russian soil. The terms of the treaty of Versailles are thus evaded, and, furthermore, such production is carried on without the Allies being able to conduct supervision over these German activities, which can be carried on more or less secretly.

The "three-line rifle, model 1891," is the regulation rifle that was used by the Russian forces at the beginning of the war. "Three line" is the literal translation of the phrase, but this is simply a measurement of the rifle bore.

Clause No. 2: Up to January 1, 1923, 2,200 German officers, petty officers, and seamen of the German Navy had arrived in Cronstadt. Most of this rebuilding and reorganization work so far has been done in the Baltic Fleet, but a small proportion of these instructors and engineers are undoubtedly in the naval base of Nickolief and Sevastopol on the Black Sea.

Clause No. 3: In accordance with this provision, a shipment of 90 carefully crated airplane engines arrived in Cronstadt the latter part

of this last year. When the shipment was unpacked, it was found that during the transit from Germany to Russia the majority of these had been partially unpacked, the cylinder heads removed, and some acid poured into the cylinders which had ruined these particular engines. This was undoubtedly the work of some of the anti-Bolshevik agents. The number of planes delivered to date is not known, for the majority, if not all, will probably be constructed in German factories on Russian soil.

Clause No. 5: The 60 Russians mentioned here are definitely known to have arrived in Berlin before January 1, 1923, for their course of instruction in gas warfare. The gas-warfare equipment of the red army is very meager, but what there is is of German design. Six battalions so equipped was the figure given in a recent reliable report received.

Clause No. 6: That large numbers of these specialists have arrived in Russia and are at present working in the Russian munition factories is an established fact. Furthermore, of the munition works specified here, it is definitely known that the one at Samara has been rebuilt and was in operation by German engineers on January 1, 1923. The status of those at Petrograd and Toula (second factory) is not known.

Clause No. 7: The provisions of the agreements of April 17, 1919, and March 25, 1921, are not known yet, but it is hoped that they can be obtained. Of the 20 vessels mentioned which were to be transferred to Germany two were wrecked on Hango Point in the Baltic last autumn, when they were en route to Germany from Cronstadt. They were so badly damaged that they have been given up as a total loss. Attention is invited to the naval importance of clauses Nos. 2, 7, and 11.

Clause No. 8: This clause apparently explains very well the German scheme for evading the stipulations of the Versailles treaty and of their plan for continuing munitions output, allowing the Bolsheviks the use of the plants in case of war. Nothing is known regarding the gun factories in Afghanistan. They have probably been located there for some purpose which is aimed at the British and India.

Clause No. 9: The agent, in explaining this clause, said that two organization lists had been drawn up, List A and List B. In List A the infantry division was considered as containing 28,000 men, and a cavalry division 19,000 men. In List B (the one mentioned in this clause) the infantry division was to contain 16,000 men and the cavalry division 19,000 men. The second paragraph of this clause intimates that the " fundamental operative plan " is a scheme

of combined military action of Russia and Germany, which was drawn up in the agreement of March 25, 1921, about a year previous to the quoted agreement.

Clause No. 10: The Alexandrovsky railroad is the one connecting Petrograd and Alexandrovsk, which is on the Murman coast of the White Sea. The Nickolaevsky railroad is the important line between Moscow and Petrograd. The importance of the Minsk-Moscow-Petrograd triangle speaks for itself.

Clause No. 11: The second paragraph of this clause has a very important political significance, as it provides for a division of the Baltic States into either "spheres of influence" or what is hoped will become actual possessions of Germany and Russia. The word "frontier" is used quite as though the future partition of the Baltic States were an assumed fact. Attention is invited to the line established by the three towns, Soliss, Volmar, Ostroff. Soliss is in the State of Latvia on the coast of the Gulf of Riga, north of Riga, and about halfway between Riga and Pernov. Volmar is in Latvia, on the railroad line between Valk and Riga. Ostroff is in Bolshevik Russia, a short distance from the Latvian frontier, and on the Pskoff-Dvinsk railroad, south of Pskoff. This railroad is of strategical importance, as it runs almost the entire length of the frontier of the Baltic States, and very close to that frontier. The line thus established places the most desirable seaports of Riga and Memel under German control, and gives Russia those to the north—Reval and Baltic port.

After first hearing the translation of this treaty, I told the agent that it appeared that all of the obligations were on Germany's part, and I asked what Russia was giving in return. He immediately stated that practically all of the obligations contained within this military treaty were on Germany, and to recompense for this a commercial treaty has been signed. This treaty was also secret and he had no copy of it. But he did have a verbatim report of a speech of Krassin's before a secret session of the executive committee in Moscow, in which Krassin explained to the committee the commercial concessions and privileges which had been granted to Germany by this second treaty.

This military agreement is of special importance at present, and may be even much more so in this coming summer, due to the contemporary situation in Germany and the belligerent feeling of the people of that country at present; and, furthermore, because of the late reports which have been received from Russia relative to the increased military activities of the Bolsheviks and the extensive propaganda campaign being carried on against Poland.

RUSSIA.

THE ARRIVAL OF ADMIRAL STARK'S FLEET IN THE PHILIPPINES.

February, 1923.

(Extracts from the report of the Commanding Officer of the destroyer detailed to meet them.)

Arrived off entrance to Bolinao Harbor at 0700, 21 January and sent sailing launch in with boat officer and representatives to ascertain if any ships were anchored in inner harbor. Boat returned with report that five Russian ships were anchored inside. I immediately made an official call on the flagship, joining Lieutenant Wood, Mr. Mixer, Mr. Powell, a constabulary officer, and the Russian interpreter on board. The flagship, the Russian ship *Diomid*, was flying a rear admiral's flag of the Imperial Russian Navy. All ships were flying the Imperial Russian naval ensign.

I was received at the gangway by Rear Admiral Stark, in command of the five ships, his chief of staff Captain Fomin, and the captain of the ship, Captain Korenoff. All were very courteous and expressed an immediate willingness and desire to carry out the order of the Governor General and commander in chief, which prohibited them from landing, and directed them to proceed to Mariveles Harbor.

The five ships in port were as follows:

Name.	Tonnage.	Speed.	Captain.	Personnel.		
				Men.	Women.	Children.
Svir	1,000	14	Lieutenant Koozoff	69	7	2
Patrokl	600	10	Lieutenant Commander Matziloff.	50	4	6
Diomid (F)	600	10	Captain Korenoff	47	4	1
Ooliss	600	10	Lieutanant Stepanoff	49	6	3
Qlia Moorometz	550	12	Lieutenant Commander Bootzkor.	46	10	0

They had arrived in port on the 19th and 20th.

Admiral Stark stated that before the fleet, which consisted of 15 ships, left Shanghai they had determined on Bolinao as a rendezvous. He stated that the other seven could be expected hourly. The ships in port had ample coal and provisions to reach Mariveles. The admiral desired, however, to await the arrival of the other ships and also to make repairs on the machinery of the *Diomid*. They had ample funds in American dollars, which they had obtained in Shanghai—enough funds to keep them in provisions for at least one month. The general health of all on board is good. So far as could be ascertained without a careful examination, there are no contagious diseases aboard. They say their health is their only comfort.

In spite of whatever comforts they lack, I did not notice that any are particularly downhearted. They have clothes enough to cover them adequately; in fact, they had been trading their woolen shirts to the natives for bananas.

Before the arrival on the afternoon of the 20th of the constabulary, consisting of 1 lieutenant and 13 men, the Russians had been going ashore at will to trade with the natives. They were received hospitably by the Filipinos, who were glad to get their trade. Food went up three times its normal price. Upon our arrival instructions were given that there should be no landing. These were afterwards modified, at the request of Admiral Stark and with the consent of Lieutenant Wood, to permit the admiral himself to go ashore and to permit one boat a day to go in for provisions. The women and children were afterwards allowed to bathe and scrub clothes on the beach near the ships. Admiral Stark and officers seemed pleased at the prospect of going to Mariveles. The women and children are very tired from the long sea voyage and anxious to reach some port where they can get ashore.

At 10 a. m., Monday, 22 January, two more ships, the *Batareia* and *Vzrivatell*, joined the fleet at Boliano.

Name.	Tonnage.	Speed.	Captain.	Personnel.		
				Men.	Women.	Children.
Batareia	1,100	9½	Captain Petrovsky	61	12	13
Vzrivatell	1,100	9½	Captain Vaxmuth	112	36	24

These ships reported that the *Baikal* and *Magnit* (the *Baikal* being flagship of the fleet) had put into a port in southern Formosa for coal and that they should arrive in Bolinao that night or the next day. The other three ships had not been seen since near Turnabout Light and Admiral Stark does not expect them. I have since learned, confidentially, that the *Baikal* has most of the money on board and with the others had deserted Admiral Stark and will return to Russian waters.

Repairs having been made to the machinery of the *Diomid*, Admiral Stark asked permission to sail for Mariveles at daylight 24 January. I think he had decided that the *Baikal* had deserted him with most of the funds and that with the growing restlessness of his personnel he had better start for his final destination.

Rear Admiral Stark is 45 years of age, stocky build, robust looking, with full face and ruddy complexion, light eyes and brownish-colored hair, slightly gray. He is active and seems to command the respect of those under him. He has had much active campaigning during the last war and Russian revolution, mostly on shore.

During the early part of the war he was in command of a division of submarines operating with the British in the Black Sea. Most of the officers and men of the fleet are young and of good education. The admiral hopes that it will be possible for them to stay in the Philippines and to sell their ships to the Philippine Government for use in coastal trade.

The fleet got under way at six hours on the 24th and proceeded to Mariveles. En route one of the 1,000-ton ships broke down and had to be towed for about four hours by one other of the fleet. All arrived safely in Mariveles early on the 25th and were immediately put in quarantine.

Written instructions from Admiral Stark to each of the five remaining ships were left with the constabulary officer in Bolinao. The instructions prohibited landing and directed them to proceed to Mariveles.

SPAIN.

DISCIPLINE AND MORALE.

14 March, 1923.

The press campaign has lost a great deal of its intensity but the feeling aroused by this campaign is not dissipated. Dissatisfaction continues especially strong in all branches of the army, including the forces in Morocco. Significant events in the development of this situation are surprisingly difficult to discover. Innumerable rumore are current and the general uneasiness is quite apparent but events and important incidents are rare.

One important element in the situation is a telegram from the former commanding general of the Melilla Zone, General Lossada, to the minister of war. This telegram, although a confidential official message, has finally gotten into the press. Parts of it are quoted since it gives what seems to be a good picture of the general state of mind of the military forces.

For the last few days, as a result of press attacks on army activities, for the purpose of comparison with the success obtained in the ransoming of the prisoners by civilian intervention, the dissatisfaction already existing among officers of all grades has become extremely acute and the suggestion has arisen that a demand be made on the Government for energetic and immediate action against the Moors in the Albucemas area.

I am obliged to inform your excellency that this suggestion has been received most sympathetically by all officers and, according to my information, the intention existed of ascertaining the attitude of officers of the expeditionary units in the field on this point. It is probable that they would have been unanimously in favor of the suggestion. The navy has also been consulted and it was proposed to communicate to me the desires of all. I have definite knowledge that certain elements contemplated most dangerous, and perhaps

illegal undertakings, but fortunately moderation and good sense prevailed and the movement has been reduced to a request made to me for the transmittal to the Government of the wishes of all.

To-morrow I will call together in my office all unit commanders and I promise your excellency that they will listen to the call of duty and will adopt in silence, with souls embittered by the suffering caused by unjust attacks, the line of conduct which I shall indicate and which shall be absolute prohibition of a continuation of this work and a definite order to restrict their activities to a careful execution of orders and commands.

At the same time I permit myself to indicate most respectfully to your excellency that it would be highly convenient for the Government to prohibit that the newspapers of certain of the ministers forming the Government should continue this campaign of antipatriotic defamation. These papers urge the Consejo Supremo de Guerra y Marina to extremes of severity; they publish at great length stories of the rescue of the captives in order to discredit the army; they emphasize the strength of the army in Africa (150,000 men) for the purpose of insinuating that the objectives pointed out by the nation were not reached because of incapacity of commanders and even absence of military virtues, and all this without a single voice being raised in defense of our slandered prestige, without a single clear statement of the true facts: That the army went where it was ordered and stopped its advance when it was obliged to; and without any apparent possibility that the so much discussed "responsibilities" shall find any victims except a few officers, undoubtedly guilty, but not half as guilty as those who forced them to go through such shameful experiences and without mention of any of the many brilliant episodes of the disaster, which are a great comfort and which justify a continued faith in the race. If, in reply to these uncontrolled attacks, which are perhaps the expression of deliberate animosity toward the army, which in turn may not be without justification, there could be made in some way a calm and just reply, charging each individual with his apparent portion of guilt or responsibility, such action would undoubtedly have an important effect in calming the present irritation, which, although restrained by sentiments of duty, honor, and discipline, is, nevertheless, steadily increasing.

I hope that your excellency will understand that the motive which guides me in my presentation of this evil in all its nakedness is none other than the desire that your excellency should be thoroughly informed and the certainty that your great qualities and your love for the armed forces will enable you to remedy it.

It is probable that General Lossada's relief from command of the Melilla zone is connected with this dispatch.

During the last week reported interviews with General Weyler, Borbon, and General Aguilera have been published. These interviews all voiced dissatisfaction with the present situation of the army before the nation and of the nation before the world as a result of events in Morocco and in connection with Morocco since the disaster. All these interviews have been repudiated by the individuals concerned, but it is more than probable that each one of the interviews had at least a definite and authorized nucleus.

On February 20 the press published a document supposed to have been delivered to the premier, Marques de Alhucemas, through official channels and to have been signed by some 60 officers of

artillery of the Madrid garrison. This document contains the following:

We, the officers of artillery of the garrison of Madrid, desire first to assure your excellency as head of the Government of our absolute subordination to the constitutional authorities, and wishing to correct publicly and officially the many inaccurate reports which have been circulated concerning our activities, we address ourselves to your excellency, certain that you will condescend to act as our interpreter in informing the nation that we freely admit our participation in the guilt involved in the military disaster of the nation and in the lack of efficiency and of proper organization in the army, and that we are determined to remedy this condition as far as it concerns us and to regain our prestige by putting our service in condition to efficiently serve the country.

In proof of our sincerity in this desire we therefore recommend and request the following, in spite of the evident sacrifices required:

"(1) That the question of responsibility in a military sense be determined as quickly as possible in its relation to ourselves and our companions.

"(2) That appropriations for the army be reduced to conform to the financial resources of the country, and that for that purpose the number of commissioned officers be reduced rapidly to the absolutely indispensable total and that in our branch (artillery) there be retained only the number of officers necessary for the proper functioning of those units which are at present equipped with modern material of the technical and industrial services.

"(3) That new regiments be not organized (with the corresponding increase in commissioned officers) unless there are available for their use the necessary barracks, quarters, and stables and modern material and equipment."

This spirit of justice, sacrifice, and professional excellence is the sentiment which inspires us with the desire to remain honorably in the army. We are certain that our companions of other branches share this ideal, and we hope that one day, when the nation is convinced that the army is the efficient organization to which the nation is entitled, that it shall be the nation itself which shall insist that the military prestige of Spain be reestablished.

We assert on our word of honor that this document is the spontaneous expression of our sentiments, entirely free at present and from the beginning of any political interest, and we further assert that we are not bound by any engagements, nor have we any relation whatever with any junta or other association.

The press in general commends the contents of this document. A number of papers, however, point out the unconstitutionality of the procedure by which a number of officers, acting in concert, address a communication to the premier.

Ministers of the Government deny any knowledge of this document except through the press. It is stated that officers of artillery of the ministry of war had no previous knowledge of it, and that the signatories represent a distinct minority of the officers of artillery of the Madrid garrison.

Several prominent individuals have stated within the last two or three days that a general attack by the Moors against the advanced Spanish positions in the Melilla zone is expected.

It is certain that conditions in Spanish Morocco are going from bad to worse.

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OFFICE OF NAVAL INTELLIGENCE.
NAVY DEPARTMENT.
Washington, D. C.

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NUMBER 6—1923.

1 JUNE, 1923.

DISTRIBUTION:
In general: Bureaus of the Navy Department; all force commanders; all commanding officers of capital ships, the larger patrols, destroyers, and submarines.

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FOR CONVENIENCE IN ROUTING.

Officer.	Initials.	Date received.	Date forwarded.
Captain			
Executive Officer			
First Lieutenant			
Navigation Officer			
Gunnery Officer			
Communication Officer			
Engineer Officer			
Medical Officer			
Supply Officer			
First Division Officer			
Second Division Officer			
Third Division Officer			
Fourth Division Officer			
Fifth Division Officer			
Marine Officer			

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The material for the Bulletin is largely derived from service sources, and its interest and value are correspondingly dependent upon the number and character of the reports received by the Office of Naval Intelligence from our own officers. In this connection the observations of officers afloat are of great value, particularly if the reports rendered are drawn up in accordance with existing intelligence instructions.

While political and economic information is undoubtedly of great value, the collection of military information should come first in the intelligence work of cruising ships.

The attention of the service is particularly invited to the following article which appears in this month's Bulletin:

GREAT BRITAIN:

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GREAT BRITAIN.

HANDLING OF INFORMATION.

28 March, 1923.

GENERAL.

The Government of Great Britain has the most comprehensive and extensive organization in the world for dealing with the distribution and dissemination of information or news in supporting and advancing its policies. This organization is composed of various coordinated systems throughout the British Empire and practically all other important countries. It is largely through this means that the British Empire has risen to its present important position and by which it has been able also to exert influence in many varied ways upon the peoples of various races, creeds, and religions of other countries.

These systems permeate practically the entire civilized or semi-civilized human structure of the globe. Its agencies extend throughout the political, industrial, commercial, financial, economic, social, religious, professional, educational, military, naval, diplomatic, and consular establishments within the British Empire and throughout the principal nations. These various agencies are carefully coordinated through Government control.

OFFICIAL AGENCIES FOR DISTRIBUTION OF INFORMATION TO PRESS.

The foreign office and each department of the British Government dealing with foreign relations, such as the Admiralty, war office, department of overseas trade, etc., has a permanent organization for handling information for distribution to the press. This section in each of the departments referred to is familiarly known among newspaper men as the "dope section." Capable and well-informed correspondents and critics state that they seldom visit such sections for "inside" or accurate information concerning the real situation which may be the subject of inquiry at the time. These sections give out information which guides the policy in accordance with the desires of the Government.

The chiefs of each of these political sections are not political appointees; they are men of long and varied experience in the particular departments of which their sections form a part. The chief of this section in the foreign office, under Sir William Tyrrell, is Sir Arthur Willert, who has served a number of years therein and

previously served as a newspaper correspondent in the United States for many years, which service eminently qualifies him for dealing with press representatives, among whom he unquestionably has many personal friends of long standing. Such connections, of course, constitute in themselves a very valuable service of information to the foreign office.

Likewise, in the war department, the Admiralty, the department of overseas trade, etc., the chiefs of these sections are experienced military and naval officers and representatives of the department of overseas trade. The significance of constituting such sections and placing at their head experienced experts is not to be overlooked. They emphasize the importance thereof. These sections either receive the press representatives at a specified hour or issue daily "releases" to the press. By placing in charge of these sections qualified technical experts the proper or desired interpretation may be obtained. A few well-chosen suggestions suffice to indicate the Government's policy.

Broadly speaking, Great Britain, of all the nations, has the most comprehensive and efficient service of information for supporting and advancing its political and commercial policies. This system is perhaps better known under the term "propaganda." The almost inestimable value rendered to this service of information by the extensive communication service of the British Empire is intimately interwoven with the subjects under discussion and will receive special treatment elsewhere in this memorandum.

INTERNATIONAL CONFERENCES.

At all international conferences the British delegation contains a special section for dealing with information to be released to the press. It thus not only is able to guide the policy and control the information which reaches the public of the British Empire but frequently dominates the control of all information released to the press of all countries. An example which may be cited is the recent international conference at Washington on the limitation of armaments. This policy is even more pronounced in the many international conferences in Europe in which the United States has not actively participated. This applies particularly to the English-speaking nations, the interpreters accompanying the British delegation often furnishing the only means of obtaining English translations of the information released.

PUBLICATION OF TREATIES AND OTHER INTERNATIONAL AGREEMENTS.

The British Government appears to lead in the number and in the promptitude of publication of treaties and international agreements,

Likewise, a similar policy is pursued by the British Government in connection with annual reports of its colonies and dominions on all important subjects—reports by His Majesty's counsellors and commercial representatives upon all countries to which they are accredited concerning such subjects as commerce, trade, immigration, finance, economics, vital statistics, developments and improvements, communications, shipping and shipbuilding, etc. These publications are of the utmost value to the various branches of the Government, to the colonies and dominions of the British Empire, and to the industrial and trade commissions of the Empire. They can be turned to considerable advantage to various interests in the United States, but it is important in that connection to remember that they are prepared solely from a British point of view, that information contained therein must be gauged accordingly, and that such publications will not serve the interests and policies of the United States Government.

It appears not inadvisable to draw attention to the orders in council which are issued from time to time which are frequently of considerable importance. Also white papers are issued from time to time dealing with subjects of special importance.

MISCELLANEOUS PUBLICATIONS.

In addition to the Government publications, there are certain miscellaneous publications which appear at the suggestion of—and often with the assistance of—the various departments of the Government. The class of publications which principally comes to mind in this connection is books. The British frequently resort to the publication of a specially prepared book as a means of influencing the peoples of other countries and sometimes of their own countries. In England a comment often heard is to the effect that the books of the schools throughout the United States are responsible in large measure for the antipathy of the American public toward the British. Practically as frequently one hears them follow this remark by stating that they intend to bring about the correction of this status. Other similar examples exist.

The British appreciate from long experience in statesmanship and economics the paramount importance of the timeliness of information disseminated and distributed in support and furtherance of its foreign relations, trade policies, etc.

COMMUNICATION SERVICE.

It is believed that the Government and other interests of the United States are beginning to appreciate the importance of superior communications. The British have long exercised control over most

of the communication systems connecting the various nations of the world, such as mercantile marine, cables, radio, fueling bases, postal and telegraph services, and diplomatic couriers. To those are now being added communication by commercial air lines and wireless telephony. Never in the history of the world has the subject of communications assumed such importance as to-day.

In time of peace an excellent communication service is indispensable to the commercial, financial, and economic interests and the diplomatic and military agencies of the government of a great power. Likewise, in time of war communications become of even greater importance. In a war between two great powers the mere possession of superior communications by one may enable it to defeat the other.

The British Government has long understood and appreciated the value of bases, fueling stations, and a communication service comprising extensive communication systems. Nevertheless, the World War placed a very heavy strain upon the British communication service, with the result that the British Government since the World War has embarked upon multiplying and improving existing systems and establishing new ones. Great Britain has laid a vast amount of submarine cable since the war in this connection. Also certain ex-German cables became British during the war and have been retained by them.

The outstanding feature of the improvement and extension of the British communication service is in the Pacific. Activities in this connection fall in the following groups:

(1) Establishment of the imperial radio chain around the world: Some of the stations of the imperial radio chain around the world have been completed and are in operation. Attention is invited to the official government report, "Imperial Wireless Telegraphy Committee 1919–20 of June, 1920, Cmd. No. 777." Among its recommendations and conclusions is the following: We find—

> That an imperial wireless scheme established in this manner would afford reliable, expeditious, and economic communication for commercial, social, and press purposes throughout the Empire, and that it would meet essential imperial strategic requirement.

Concerning the completion of this imperial radio chain around the world, the following article is quoted from the London Times of December 16, 1922:

> The Government now proposes to approach afresh the whole question of wireless communications, and Mr. Amery, the First Lord of the Admiralty, is the chairman of a cabinet committee which has been appointed to investigate the situation. One meeting has already been held, and another will take place next week. It is stated that the Marconi Co. is ready to spend £2,000,000 at once in building wireless stations. There is no doubt that the Postmaster

General will decide to receive the deputation from the cable and communications committee of the Empire Press Union, and it only remains now to choose its composition.

The Government has decided to permit the Marconi Co. and other private enterprises to proceed with the development of the imperial radio chain.

It has been reported that the stations at Leafield and Cairo have been completed, and that a radio station is being installed at Gap Rock at Hongkong.

(2) Paralleling British submarine cables in the Pacific and the laying of new cables: It is very difficult to obtain accurate and complete information concerning these cable-laying operations. Articles have appeared during the past year indicating the policy, and in connection with the paralleling of certain existing cables it was specifically mentioned that one of the new cables was to be laid via the Hawaiian Islands. It is known that during 1921 the British completed laying a new submarine cable from London to Singapore. (See Annual Colonial Report on Hongkong for 1921, p. 3.)

(3) Official and semiofficial encouragement of development of empire air routes, particularly from England to India and Australia.

(4) Establishment of large reserves of fuel at bases throughout the Pacific and routes thereto for an improvement of steamship services and for strategic purposes.

PROPAGANDA.

A paper on the subject of governmental publicity accorded foreign relations would not be complete without including under communications the very important relation of "Propaganda." "The Secrets of Crewe House" contain a very interesting account of that propaganda organization under the direction of Lord Northcliffe during the last year of the World War.

Some indication of means employed by the British Government in connection with their propaganda has been given above. It appears desirable to quote the following extracts from the official "Recommendations of Foreign Office Committee on British Communities Abroad, Miscellaneous Report No. 8 (1920)." Among the agenda assigned to this committee by the foreign office are the following, together with its comment and conclusions:

6. *Local newspapers.*—The advisability, or otherwise, of His Majesty's Government encouraging local British newspapers in different countries.

The committee are of the opinion that while much good may be done by well-managed English newspapers published in foreign countries, these enterprises should be commercial undertakings and should receive no financial assistance from His Majesty's Government.

The committee believes that this view is shared by the leading newspapers of this country.

7. *Commercial and political propaganda.*—Whether it is advisable, and if so by what means, to encourage commercial and political propaganda.

We do not advocate any form of political propaganda. We are of the opinion that the best form of commercial propaganda is found in the continued and increased activity of British undertakings, manufacturers, and merchants in foreign markets. Government assistance can best be rendered by the development of the commercial side of the diplomatic and consular services, the organization of missions to investigate foreign markets, often in conjunction with the trade associations concerned, the dispatch of touring exhibitions of British products on a self-supporting basis, and the organization of show rooms abroad for frequently renewed exhibitions of British goods.

This committee further said (referring to the cinematograph):

In their opinion, which we share, it plays a world-wide part in molding public opinion and spreading a true or false impression of a nation's industrial, social, and political ideals. There can be no doubt that film-producing companies have it in their power to influence the thoughts of people in all corners of the world and it behooves the British film industry not to lag in the race to secure for the British Empire a leading position among film-producing countries. His Majesty's Government therefore should do what lies in their power to assist and encourage companies under British control. * * *

This subject of the circulation of British books, etc., was very fully dealt with in the confidential report of the department of information referred to above. Much valuable evidence was given before it by members of the learned professions and of the book trade. We are not, however, prepared at this stage to press for a Government grant in aid of commercial publishing enterprises such as was recommended by that committee, but apart from this many of their recommendations are deserving of the consideration of the Government and the book trade.

Articles appear frequently in the London daily press indicating a well-organized system of propaganda. The following is quoted from a letter which appeared in the London Times of December 23, 1921:

No discussion of the imperial chain would be complete without specific reference to the press and propaganda aspect of its possibilities. Wireless telegraphy lends itself to propaganda and national advertisement in a degree apparently still unrecognized by our statesmen and men of affairs. Every word sent by wireless is shouted from the housetops, and uncoded messages transmitted at slow speed from the great wireless stations of the world may be picked up by simple, inexpensive receiving apparatus thousands of miles away at favorable times of day. From several of the great manufacturing nations of the world news messages and propaganda in the guise of news messages are steadily pouring into countries such as China and South America, and even into portions of the British Empire. Many newspapers in China, for instance, are utilizing small private receiving stations for the supply of their foreign news, which is often permeated by subtle suggestions of the industrial prowess of the nation, owing to the distant source of the signals. The American chain across the Pacific can not fail to become an instrument of great influence

over thought and commerce in the whole of the Far East and possibly in Australasia.

Again quoting from an article in the London Times of December 16, 1922 (a year later):

It is hoped to use the Bourne station at first for Empire rather than for foreign communications, and the bulk of the telegrams transmitted from it will contain press messages.

After a very careful reading of the editorial articles appearing in the various London newspapers during the periods when any foreign policy is under serious consideration, and particularly during the international conferences, one can not escape the conviction from the practical unanimity of opinion that the press in general agree to support the Government's view as well as the major provisions of its policies. The expressions of press opinion can not be taken as entirely and exactly expressing public opinion. Twice during the year 1922 has this been especially noticeable, namely, during the Limitation of Armaments Conference in Washington and during periods when the Anglo-French relations appeared to be particularly strained. Also periodically there appeared simultaneously press campaigns advocating and supporting some particular policy, such as the subject of the cancellation of allied debts.

LEAGUE OF NATIONS.

Whatever may have been the original conception of the League of Nations, it is at the present time largely an instrument of the British Government. To it apparently gradually drift all problems involving foreign policy which the British Government is unable to manipulate successfully in accordance with its policies. The vote of a number of the smaller powers is largely influenced by the British Government. The secretariat of the league is British. The president of the League of Nations Assembly, recently elected, is Señor Augustin Edwards, the Chilean minister to the Court of St. James, having held that appointment for about nine years. He is very pro-British, as is his Government. He is exceptionally approachable by the British, among whom he has many personal friends. It is to be noted that Señor Edwards was on March 26 elected as permanent president of the Pan American conference in session at Santiago, Chile.

At the last assembly of the League of Nations at Geneva the Archbishop of Canterbury went there to deliver a sermon on the Sunday preceding the opening. Lord Robert Cecil went, not to represent Great Britain but as the leading delegate for South Africa, and as such took a leading part in shaping the activities of the assembly. Another Englishman represented New Zealand. Lloyd-

George was to have gone there to address the assembly but for the crisis in the Near East.

No attempt has been made other than to briefly intimate the relation of "propaganda" to the British foreign relations. The subject would require full and separate treatment, and even then it would be difficult to do justice to the British organization for carrying on that work. It is assumed that the United States Government had ample facilities during the recent World War to have become fully informed as to the ramifications throughout all phases of the activities of this colossal group of systems engaged in propaganda.

GREAT BRITAIN.

BRITISH NAVAL STRATEGY, SINGAPORE AND MALTA.

5 May, 1923.

Source: The Navy (the official publication of the British Navy League).

Defense of trade routes is at the base of all naval strategy. Attack on trade is at the root of all wars.

We have ceased to speak, except with ungentle irony, of the war that was to end all wars. We are envisaging a distant future in which defense of the imperial trade routes may once again be the first duty of that navy which is maintained by the taxpayers of the mother country. We are preparing slowly against that day.

Short-sighted people are opposed to these measures. The same type of person was opposed to the measures taken in 1905, and the same type of argument is being used. We were told then that the concentration of our naval strength in home waters was a threat to Germany that must embitter German opinion. Now we are told that the decision to develop in the *outer seas* a naval base at Singapore that could be used by our main fleet should it ever cruise in the East is an affront to Japan and a breach of the spirit if not the letter of the Washington treaty.

The first part of this argument was neatly demolished by the first lord in his speech on the navy estimates in the House of Commons in March.

> There was no suggestion in this development of any difficulty in our relations with Japan. On the contrary, if there were even apprehension of such difficulties, the Government would not be dealing in such leisurely fashion with an indispensable prerequisite of strategic preparation.

Actually, as he pointed out, the work of equipping Singapore to accommodate a modern fleet is to be spread over a number of years. It is indeed the long view that the admiralty are taking. Nor is it a new view. In 1902, before the German menace arose, the admiralty

in a memorandum on sea power told the dominions that naval strategy required us to be strong enough to conduct a vigorous naval offensive *all over the world*, while at the same time concentrating a sufficient force to insure victory in the decisive battles *in whatever parts* of the seas those battles might take place. The above italicized words are the keynote of our post-war, post-Washington policy. The Rosyth and Scapa of the coming years may not be as near each other as their originals. But they must be in existence and they must be complete.

The changing conditions of sea defense are going to bring about another important alteration in our dispositions. It is now clear that the revival of a first-class force in the Mediterranean based on Malta is part of the Admiralty policy. The explanatory statement this year definitely indicates this by pointing out that the strengthening of the fleet in the Mediterranean, which was temporarily necessitated by the near eastern crisis, "may become desirable as a permanent measure in the future to meet the general strategic situation."

Here, then, is a very definite situation with which the Navy may at any moment be called on to cope. The long-drawn-out negotiations at Lausanne for a settlement of near eastern questions have somewhat bored the average citizen, with the result that the Dardanelles convention, which was one outcome of those debates, has received little attention. It provides nominally for the demilitarization of the shores of the straits, and gives, on paper, free passage into the Sea of Marmora for ships of war. It must be remembered, however, that M. Tchitcherin protested vehemently in open session at the conference against this convention, and said frankly that the Soviet Government declined to accept it. We might perhaps ignore the Soviet Government standing alone in this matter, but it is well known that it is far from standing alone. It is in close and constant relations with Berlin; it has a numerous group of supporters in the Turkish Parliament. Its capacity for intrigue and for the employment of catspaw has been very clearly demonstrated.

The near eastern situation, then, manifestly calls for naval preparedness. The freedom of the Dardanelles is but a part of the whole strategic problem forced upon us by our post-war commitments in the Near East, the mandates we have accepted in Mesopotamia and Palestine among them. The navy has no responsibility for the acceptance of those responsibilities. That is the affair of the politicians. They, however, look to the navy to defend the fruits of their policy against outside aggression; and, that being so, they have no right to say to the navy that it does not need so many ships, so many men, so much fuel and munitions to do the work. That is the affair of the naval staff and has nothing to do with the politi-

cians. If the politicians can not provide the funds for the ships and men and supplies, they must alter their policy. They can not alter the basic facts of naval operations.

Similarly with the Singapore project. It is open to the politicians to say, "We will no longer accept responsibility for the defense of our sea-borne trade. If any enemy likes to seize it he may." That is their business—theirs, and in some small measure that of the citizens of the country who might possibly have something to say in the matter. But so long as they intrust to the navy the task of defending our sea-borne trade they must provide the navy with the weapons and the means necessary to the carrying out of the task.

GREAT BRITAIN.

EXCERPTS FROM THE PARLIAMENTARY DEBATES ON THE SUBJECT OF COMPARATIVE GUN RANGES.

7 May, 1923.

Naval heavy guns (Great Britain and United States). Gun ranges, Great Britain and United States.

Viscount Curzon asked the First Lord of the Admiralty whether his attention had been drawn to the remarks made by the Secretary to the United States Navy with reference to the difference in extreme elevation and consequent difference in range of the heavy guns of the United States fleet and the British fleet; and whether any statement can be made showing the actual facts regarding the elevation and range of the heavy guns in the two fleets?

Commander Eyres-Monsell. It is understood that the maximum service elevation and range of the main armament guns of United States battleships range from 15° elevation and 21,000 yards range to 30° elevation and 34,500 yards, and of British ships from 20° elevation and 23,800 yards to 30° elevation and 30,300 yards. I propose, with my noble and gallant friend's permission, to circulate fuller details in the official report.

Commander Bellairs. In view of the fact that the Japanese also intend to increase the elevation of the guns on all their capital ships, could not we enter into communication with both Governments to stop a fresh race in armaments?

Commander Eyres-Monsell. We do not propose to alter the elevation, and although the Americans appropriated money for that purpose, they have, on our assurance that we are not going to do so, abandoned the idea. My honorable and gallant friend, the member for Maidstone (Commander Bellairs), has raised an entirely different question,

Mr. Wheatley. Will the honorable and gallant gentleman explain to us what we have to fear from the quality of the American guns?

Following are the details:

United States battleships.

	Yards range.
16-inch guns, 45 cal., 30°	34,500
14-inch guns, 45 cal., 15°	21,000
12-inch guns:	
50 cal., 15°	24,500
45 cal., 15°	22,000

British battleships.

15-inch guns:	Yards range.
30° elevation	30,300
20° elevation	24,300
13.5-inch guns, 20° elevation	23,800

Note.—While the caption under the British table is for "Battleships," it is probable that in this case the *Hood*, although a battle cruiser, is grouped under battleships.

Viscount Curzon and Commander Bellairs are the members of Parliament who take a leading part in parliamentary action with a view to increasing efficiency of the British Navy; Commander Eyres-Monsell is parliamentary secretary to the Admiralty; Mr. Wheatley is a labor member in opposition to the Government.

GREAT BRITAIN.

QUESTIONS AND ANSWERS CONCERNING BRITISH AIRCRAFT CARRIERS.

19 April, 1923.

1. How far from the stern of a carrier do they try to touch the wheels of the plane when making a landing?

Answer. Any point after passing the stern ramp. The decks are sufficiently long and the arresting gear sufficiently efficient to obviate the necessity of attempting to land the plane at the fore and aft end of the arresting gear equipment.

2. What method is used in securing the fore and aft wires to the flying deck?

Answer. The fore and aft wires are in loops, the ends being secured aft with turnbuckles and the bight forward passes over the sheave on the crosshead of the pneumatic piston.

3. How big is the landing area?

Answer. As large as the design of ship permits, except that sufficient space is left forward for taking off, the landing area being used for that purpose only with very heavy planes.

4. Are any springs used in the fore and aft wires?

Answer. No. Spring effect is secured by use of pneumatic pistons.

5. Are ramps used? Can they be countersunk in the deck?

Answer. Ramps are used. The after ramp is fixed and is just high enough to give the fore and aft wires the necessary clearance from the deck. The forward ramp can be lowered. The British use metal flying-on and flying-off decks and ramps can not be countersunk in those decks.

6. What size wire is used in the fore and aft wires?

Answer. Ordinary flexible steel cable of 1-inch circumference.

7. What height above deck are the fore and aft wires?

Answer. Fifteen inches.

8. Are anything similar to fiddle bridges used?

Answer. Yes; called flaps by the British. Each flap is about 6 feet long and supports 10 wires.

9. What is the distance between centers of fiddle bridges (flaps)?

Answer. Six feet in athwartship line, such distance between the fore and aft lines as is required to keep the lower part of the catenary of the fore and aft wires at such height above the deck that the hooks of the landing plane will be sure to engage, even if one set of flaps is down.

10. What is the method of approach from the stern? Do they come parallel or glide?

Answer. Gliding approach is used.

11. How do they keep the plane from being blown backward by the wind after it has come to a stop?

Answer. So far as is known no special method is used other than manhandling. As the British do not use athwartships checking cable they probably do not experience the same difficulties in this matter as are experienced with the gear on board the *Langley*.

12. How are wheel brakes operated by the pilot?

Answer. No wheel brakes are used.

13. How are planes secured to the deck prior to flying off? Types of fittings, (*a*) on planes, (*b*) in deck.

Answer. The British apparently only have one plane on flying-off deck at a time, and that plane is hand held. Planes are brought up by lift from lower deck in condition ready to fly.

14. Do they contemplate using retarding area for parking planes prior to flying off?

Answer. No. See answer to previous question.

15. What is the depth of apron at stern?

Answer. Apron at the stern extends in a downward curve from the athwartships bar, carrying the fore and aft wires (height just over 15 inches) to the deck level.

16. If they use fiddle bridges (flaps), how do they erect them after being knocked down?

Answer. Flaps are pulled up with hand hooks and set individually.

17. What power is used on the elevators and what time required to go up and come down?

Answer. Elevator power is believed to be hydraulic. The times of elevation and lowering are not known. It is understood that a plane can be flown off every three minutes and a plane landed on every five minutes, which time includes in each case operation of the elevator in one direction.

18. Are there any holes in the flying-off deck?

Answer. Not known.

19. Are there expansion joints in the flying-off deck?

Answer. No.

20. Have they a boom with which to plumb the sides and the elevator?

Answer. Not so far as is known.

21. What is the position of the net? Angle position? Material made of? Does it fold up?

Answer. Net is approximately 2 feet below level of flying-off deck. Exact angle position not known, but believed to be approximately horizontal. It is made of cordage and does not fold up. Outer edge of net curves up about 18 inches and inner edge extends under flying-off deck to afford shelter.

22. How do they furnish shelter for the planes?

Answer. No shelter is furnished for planes on flying-off deck, as only one plane is kept on that deck at a time.

23. Are automatic starters used?

Answer. No.

24. Are engines heated while on deck? If so, how?

Answer. Not known.

25. How far may a plane roll before entering arresting gear?

Answer. The arresting gear extends almost to the after end of the ship, hence plane enters it immediately upon landing.

26. Details of the deck fitting for securing planes?

Answer. So far as is known, there is no special arrangement for securing plane on flying-off deck.

27. What type of radio compass is used? How located?

Answer. Not known.

28. Are diverging fore-and-aft wires used?

Answer. Fore-and-aft wires are parallel.

29. How are planes kept from turning over on nose when landing on flight deck?

Answer. The hooking gear is placed about 2½ feet abaft the center of gravity of the plane, and hence are well aft of the wheels. When the plane is hooked, the tendency is, therefore, to force the tail down.

30. What types of planes do they land on board?

Answer. All types of single-engine planes, including amphibians. The largest plane landed, so far as is known, is the three-place spotting plane known as the *Seagull.*

31. Gross weight when actually landing on board?

Answer. The gross weight of the *Seagull* is not definitely known, but it is a normal type of plane equipped with a Napier Lion engine, and probably weighs, fully loaded, approximately 5,000 pounds.

32. Does anyone other than the pilot have anything to do when plane is landing on?

Answer. Other persons in plane have nothing to do. All landing on is in charge of the flight officer, who directs operations from a control station and who has the manipulation of the pressure of the pneumatic cylinders controlling the tension upon the fore-and-aft wires. This tension is normally 500 pounds, but can be almost instantaneously increased to 750 pounds, if necessary, in the case of a plane bouncing up after landing.

33. Are ranges used?

Answer. Not known.

34. What retards the planes?

Answer. The retardation of the planes after engaging is almost entirely due to increased air resistance: the tail being drawn down causes the planes to present a very large angle to line of motion.

35. Can this force be varied by people on deck or is it automatic?

Answer. The only variation under the control of those on deck is the ability to almost instantaneously increase the tension of the fore-and-aft wires.

36. Can they handle a plane on deck in 50 miles of wind? If so, how?

Answer. So far as is known, planes are manhandled on deck. The limits of wind are not known.

37. Are special or standard wheels used on the planes?

Answer. Standard wheels are used.

38. In case of a forced landing, which side of the ship would landing be made by?

Answer. Whichever side affords the best lee, dependent upon the relative direction of sea and wind and course of ship.

39. What is necessary to prevent magneto condensers from burning out while planes are idle on board ship?

Answer. It is not known that any special precautions are taken.

GREAT BRITAIN.

NAVAL AVIATION.

28 March, 1923.

The First Lord of the Admiralty was asked (March 28, 1923) whether he could make any statement as to the amount of actual flying that has been carried out by the Royal Air Force units attached to the Royal Navy during the past year.

The Secretary of State for Air (Lieut. Col. Sir Samuel Hoare) replied as follows:

Although it is not desirable in the public interests to give information in detail on this subject, I may say that Royal Air Force units have carried out a large number of exercises in cooperation with the fleet during the last 12 months, working both from carrier and from shore bases. I may mention, by way of example, the work of the fleet reconnaissance squadron in His Majesty's ship *Argus*, which accompanies the Atlantic Fleet on their spring cruise; also the torpedo attacks and bombing and machine-gun trials against ships of the Royal Navy, which were carried out last July and August. In addition, a great deal of experimental work has been done, and I would refer in particular to the cruise of a development flight of flying boats which was undertaken last autumn in conjunction with His Majesty's ship *Ark Royal*, and from which valuable lessons have been learned.

GREAT BRITAIN.

FORTHCOMING IMPERIAL ECONOMIC CONFERENCE.

9 May, 1923.

The following is a quotation from the London Times in its report of an address by Lord Curzon at the Primrose League May 5, 1923:

There is one other step in connection with foreign affairs in which a decided movement is about to be taken by His Majesty's Government. I allude to the meetings in the forthcoming autumn of an imperial economic conference and of a conference dealing more particularly with imperial matters in their larger aspects. When history is written the record of the past 10 years and the steps which have been taken in the consolidation of the Empire by means of these conferences will occupy no inconspicuous place. The situation in Downing Street, when you have gathered around the table not merely members of the ordinary cabinet but the prime ministers of your dominions, heads of great and powerful States assembled from all parts of the world, putting their thoughts and their desires and force into the common pool and endeavoring to arrive at a solution of a common end—that situation, believe me, is a great and inspiring spectacle. I have attended many of these conferences, and I have seen them swell from meetings where we discussed what I

might call the domestic affairs of the Empire, such as tariffs, communications, and the like, into great imperial councils endeavoring to work out an international policy for the whole Empire.

During the war our efforts were directed in the main to winning the victory and to determining the conditions of peace that would follow victory if it were attained; and I can assure you that the contributions made by those statesmen to both those results were remarkable in the highest degree. Now the situation is different. The war is over; peace has been attained, and a set of entirely new problems comes before us. We have to see how far we can organize the resources of this great Empire in order to bring greater benefit to all the units who compose it and to help us to help each other in respect to fiscal matters, exchange of populations, and the like. But we also have to see how far by consolidation, by improvement of communications, we can develop a common policy in international matters, so that the foreign minister of this country, when he speaks, may speak not for Great Britain alone but for the whole British Empire.

We made great advances in this direction two years ago. I can assure the dominions that there is the warmest desire on the part of the foreign office to invite and to encourage their cooperation, and if the foreign minister of this country has, in a way, a more difficult task in the future because he will not be able, as he has hitherto been, to speak only for home opinion or domestic action, think of the addition to his power and his strength that will result if, in speaking, he knows—and the world knows—that there lie behind him the sentiments and the might of the British Empire as a whole. Therefore I look with great hope and great confidence to the conferences which are to assemble in London in October next.

GREAT BRITAIN.

SUBMARINE PERSONNEL.

11 May, 1923.

Volunteers to the number of approximately 100 are called for by the Admiralty for the various submarine detector ratings. Men of the seaman, signal, and wireless branches, under 25 years of age, and not holding a high gunnery or torpedo rating, are eligible, but preference will be given to those holding the rating of seaman torpedoman. In the future it is probable that the antisubmarine service will be manned by the torpedo branch. Extra pay is given at the rate of 1s. a day to submarine detector instructors, 6d. a day to submarine detectors, first class, and 3d. a day to those of the second class. Only ratings of superior ability and in possession of first-class hearing are accepted. Volunteers undergo a preliminary aural test in their ships, and the final aural test is carried out by the commanding officer at the Antisubmarine School, Portland.

GREAT BRITAIN.

LOAN OF ROYAL NAVAL OFFICER TO THE CANADIAN NAVY.

10 May, 1923.

Commander F. H. Brabant, late of the light cruiser *Birmingham*, has been selected to fill a vacancy in the Royal Canadian Navy, and will be loaned for two years as commanding officer of the depot ship *Guelph*, the Royal Canadian Naval Barracks, at Halifax (the training center on the east coast for Canadian reserve men), and as senior naval officer of His Majesty's Canadian ships at Halifax. A residence in Halifax Dockyard is allotted to the S. N. O.

GREAT BRITAIN.

BRITISH NAVAL INTELLIGENCE TRAINING.

18 April, 1923.

At the Royal Naval Staff College, Greenwich, under the direction of Maj. Walter Sinclair, O. B. E., a new course for officers to qualify in naval intelligence duties will begin.

GREAT BRITAIN.

WEST INDIAN CRUISE OF LIGHT CRUISER CONSTANCE.

11 May, 1923.

The light cruiser *Constance*, Capt. J. D. Campbell, O. B. E., M. V. O., which returned to the North American station in February after being recommissioned at Devonport, is ordered to make a cruise in the West Indies, and will leave Trinidad to-day (May 11) for Tobago, thence carrying out the following program:

Tobago	May 11–12.
Grenada	May 12–15.
St. Vincent	May 15–16.
St. Lucia	May 16–19.
Montserrat	May 20–22.
St. Kitts	May 22–24.
Antigua	May 24–28.
Kingston	May 31–June 4.

Afterwards the *Constance* will visit Eleuthera Island, Bimini, Harbour Island, and Inagua, and will return to the base at Bermuda on June 15.

GREAT BRITAIN.

NO LARGE WAR ANTICIPATED FOR 10 YEARS.

4 May, 1923.

Commander Bellairs asked the Prime Minister whether the instructions of the year 1919 that the estimates are to be framed on the assumption that no great war is to be anticipated for 10 years from 1919 are still in force in regard to the Admiralty, the war office, and the air ministry.

The Prime Minister. The answer is in the affirmative.

JAPAN.

A SURVEY OF THE GENERAL SITUATION.

NAVAL.

The Japanese fleet in active commission in home waters is divided into two parts, called the first and second fleets. The commander in chief of the combined fleet is directly in command of the first fleet and the first division of that fleet, while the second fleet has a commander in chief who also commands a division and is directly responsible to the commander in chief of the combined fleet.

The first fleet is composed of one division of 4 battleships (BB), one division of 3 light cruisers (CL), four divisions of 4 destroyers (DD) each (one division has a vacancy), with a light cruiser as flagship; two divisions of 3 submarines (SS) each (one division has one vacancy), with an old light cruiser (OCL) as flagship, and a depot ship (AS).

The second fleet is composed of one division of 3 battle cruisers (CC), one division of 3 light cruisers (CL), two divisions of 4 destroyers (DD) each, with a light cruiser as flagship; two divisions of 3 submarines (SS) each, with an old light cruiser (OCL) as flagship, and a depot ship (AS).

In all: Four battleships, 3 battle cruisers, 8 light cruisers, 2 old light cruisers, 23 destroyers, 11 submarines, 2 submarine depot ships.

Also, in Chinese waters, 6 small gunboats, at Vladivostock 1 old armored cruiser, and in the south seas 1 mine layer.

While the proportion of Japanese men-of-war in active commission is very moderate, all the remaining vessels of any military value are kept in reserve commission, and they can be put in active commission promptly as occasion demands. This could probably be done with a high degree of secrecy in a month at any time, and after a period of strained relations this could be shortened to two weeks.

Were the navy suddenly mobolized, it would at first be under considerable handicap, due to the incorporation into the fleet of untrained ships, crews, and newly organized units.

In war the sooner such a fleet could be attacked by a well-prepared enemy the greater would be the chances of success for the attacking fleet.

The great handicap of the Japanese fleet, even that part in active commission, heretofore has been lack of sea experience. However, during the last six months the active fleet has spent considerable time actually at sea. That it needed such experience is clearly demonstrated by the large number of accidents in the fleet during this cruising. One battle cruiser ran aground, one light cruiser had a serious boiler accident, another developed material defects necessitating her withdrawal from the fleet for general overhaul, one submarine had a serious battery explosion on board, a number of cases of cerebrospinal meningitis developed, a man on a submarine was electrocuted accidentally, and several men were washed overboard.

It is felt that under the present commander in chief of the combined fleet, Vice Admiral Takeshita, the efficiency of the fleet will be materially improved. Admiral Takeshita is thought to be one of the ablest flag officers in the Japanese Navy and not under the domination of any clan, clique, or faction in the navy.

The seagoing personnel of the Japanese Navy consists of about 6,200 officers and 63,000 men. This shows a reduction of about 14 per cent during the last six months, but increased effort is being made to improve education, training, discipline, and morale to compensate for reduced numbers. Officers and men of the Japanese Navy are intelligent, loyal, and zealous, and, except for the limited sea experience and a racial deficiency in initiative, they may be rated as high as the personnel of any other navy.

The Japanese ships to be scrapped under the terms of the five-power naval treaty remain as before, waiting the final exchange of ratifications.

Work on the ex-battle cruisers *Amagi* and *Akagi* to convert them into airplane carriers has begun and is to be rushed to completion.

There are indications that construction work on light cruisers, destroyers, and submarines is being expedited. It is firmly believed, though not based on any specific information, that the Japanese officials feel that by scrapping capital ships and expediting the completion of their light cruisers, destroyers, and submarine programs their naval position versus America is becoming much more favorable to Japan.

This attitude deserves the most thoughtful consideration on the part of our Government.

Aviation matters are receiving an unusual amount of attention in Japan at present.

Specific information regarding reserve supplies is not available, but there are reasons to believe that reserve supplies are held in large quantities, particularly ammunition and fuel oil.

The Japanese naval stations are efficient and ample for all possible needs.

MILITARY.

The Japanese Army consists of 17,517 officers and 220,799 men on the active list, with about 1,350,000 in the reserve.

The army is well equipped and trained, but is inclined to be very conservative, and there are indications that the military lessons of the World War have not been fully accepted.

The army is stationed in Japan and Japanese possessions, except for a small force in northern Saghalien and in Manchuria.

ECONOMICS.

During the last six months the economic condition in Japan has shown some improvement, though it is still unsatisfactory.

During the calendar year 1922 imports exceeded exports by more than 252,000,000 yen; five items of foodstuffs imported (rice, beans, wheat, eggs, and sugar) amounted to over 242,000,000 yen; raw silk exported (chiefly to America) amounted to over 670,000,000 yen, this one item being more than 40 per cent of her entire export trade.

Wages and rents, as well as the prices of necessities and luxuries, continue to be high.

Production costs are still unduly high, and attempts at moderate reduction in wages of labor have resulted in numerous small strikes. The laboring classes are showing both increased discontent with their condition and increased power.

The dangerous condition of overextended and frozen credits reported six months ago recently came near producing a very serious financial crisis. Runs on various banks occurred, and due to the small amount of liquid assets available a number of banks suspended payment. As usual the Government came to the rescue, advanced money to banks, and in some instances actually took over loans held by private banks that it was considered unwise to call for payment. Since then the Bank of Japan has repeatedly pointed out to private bankers the danger in maintaining an unsafe amount of liquid assets.

One enormous economic problem Japan has to meet in the not far distant future is that of modern streets in cities and roads in the country. Even Tokyo has only half a dozen paved streets, and there

are practically no modern roads in Japan, but only narrow, winding bridle paths. Owing to the physical aspect of the country (a succession of precipitous hills with rice paddies between) the cost of road building per mile will be enormous, but thinking Japanese realize it must be done sooner or later and are wondering where the necessary hundreds of millions can be secured.

The keystone of the economic life of Japan is silk, and business men realize that if through business depression in America or any other cause America should cease buying silk from Japan even for a few months it would produce a financial and economic crisis in Japan difficult to exaggerate. This fact puts in the hands of America a powerful instrument that could be used to bring Japan to her senses in any situation of sufficient importance to really reach the feelings of the average American. Through the action of China on numerous occasions Japan has learned the power of the boycott to her sorrow, but such experiences would be as nothing compared to the boycott of Japanese silk by America. She literally has nothing to which she could turn to take the place of silk. Its ramifications extend from smallest tenant farmers to most powerful bankers.

The large flow of business between Japan and America has a stabilizing influence on the relations between the two countries, and this influence is still increasing.

The ban on the export of gold from Japan continues in force.

POLITICAL.

During the last six months, even though the prime minister is an admiral on the active list, the political power of army and navy has continued to decrease and that of big business to increase.

It is a mistake to think that Japan withdrew her army from Siberia solely or even chiefly through pressure of foreign powers. Big business interests have made it plain to the Japanese Government that they are strongly opposed to the pouring out of Japanese gold on expeditions to Siberia, garrisons in China, and army corps in Manchuria that only succeed in antagonizing the people of these countries and making business with them more difficult.

The present Japanese Government has a very precarious tenure of office, due to various causes, such as the very poor health of Admiral Baron Kato, premier; disappointment on the part of certain unofficial political influences at the accomplishments of the Kato cabinet; a disagreement between the cabinet and privy council; and the unscrupulous methods of the opposition that will stoop to anything for an advantage. It is quite likely that the cabinet will resign during the next few months.

During the last session of the Diet the universal manhood sufferage bill was again defeated, and all steps looking toward responsible

parliamentary government died in committee or were defeated in regular session. Both of these will come in time and will naturally cause a profound change in the Japanese Government. This the conservative element is afraid of.

In international politics questions affecting relations with America always loom large. This has not been changed by the Washington conference agreements. There is no indication that the Government has changed or wants to change its policy of living up to these agreements, but unquestionably the trend of public feeling in the last six months has been away from cordiality toward and confidence in America. This is due largely to voluminous and critical discussions in the press of such matters as the decision of the United States Supreme Court denying to Japanese the right of naturalization, the exclusion feature of the immigration bill introduced into Congress, a number of bills introduced into the legislatures of several Western States, various internal matters in America that are pictured as inimicable to Japanese interests, and the attacks of the opposition in the Diet upon what is termed the pro-American attitude of the Government.

The trend of business sentiment is favorable to preserving the best possible relations with America.

As regards China, Japanese sentiment is still in a puzzled and indecisive state. Business desires conciliation and the avoidance of friction; the military influence demands a stronger aggressive policy. oriental character requires the saving of "face"; the Government wishes to avoid incurring the disapproval of foreign governments. Result, indecision.

The demand by the Chinese Government for the abrogation of the "treaty of 21 demands" aroused a storm of protest and abuse toward China, but as an irritant, if nothing more, this matter has great possibilities. It may be accepted as a certainty that Japan will not in the discernable future get out of Manchuria or turn over Kwan Tung to China. Reports of another boycott against Japanese goods are heard and cold chills of apprehension run up and down the spine of Japanese business.

Whatever Japan may say, the fact remains that her belief is that she has and must continue to have special interests in China, particularly in that part to which her possessions are contiguous.

In Siberia Japan is much interested. Since the evacuation of her army from eastern Siberia, however, she has made but little, if any, progress toward the resumption of relations with Russia, of which Siberia is again a part. Such resumption is desired, particularly by the business interests, but two principal factors have mitigated against its success.

First. The unreasonable fear of the governing class (not the people) in Japan of coming in contact with live socialism in any form.

Second. The rudeness, boorishness, and arrogance of Mr. Joffe, the Soviet representative to China, who has been in Japan for several months. He came over to Japan ostensibly for his health, on the invitation of Baron Coto, mayor of Tokyo, and a very prominent Japanese. However anxious Japan may be to resume at least business relations with Siberia and Russia, it appears that nothing has been accomplished. A worse representative than Mr. Joffe to approach the Japanese could hardly be found.

Meanwhile the Japanese Army is still occupying northern Saghalien, though it is believed the Japanese Government would gladly turn over to Russia could they find some formula to do so that would permit Japan to "save her face."

SOCIAL.

Social unrest is still widespread in Japan, particularly in the laboring classes. Strikes, disagreements, unreasonable demands of groups of laborers, etc., are of frequent occurrence, though of rather limited individual extent.

The bugaboo of the upper classes is socialism. Hardly a week goes by that the police of Tokyo, Osaka, and other large cities do not forbid or actually suppress and disperse gatherings of laborers. The policy seems to be purely one of suppression. So far as a foreigner can gather, the most pronounced form of socialism even dreamed of by the laboring classes in Japan is of the mildest and most innocuous type. However, it is quite understandable how the upper classes feel in a country whose whole government is based upon the divinity of its ruler and the century-old privileges of its upper classes. When socialism, even in a mild form, threatens these two principl s the upper classes picture to themselves the entire system of government turned upside down.

The outstanding social development of the last six months has to do with the class called "Eta." Eta means "outcast," and it is estimated that there are in Japan about 3,000,000 Eta. They are socially simply outcasts. They live in segregation, marry only among themselves, are permitted to carry on only certain occupations considered most menial, and are generally without pride of ancestry or hope of posterity. They are Japanese as to race, but through ages of more or less degredation have developed certain class characteristics of their own.

The extreme type of socialists of Russia and other countries have not failed to see the possibilities of using the Eta as an instrument in

Japan. They have been innoculated with extreme ideas and have not only become partially organized in each group but their various groups themselves have been brought into a loose form or organization.

During the last few months these groups have brought their condition very forcibly to public attention. A number of clashes have taken place not only between the Eta and groups of other citizens but even with the police. A few quite serious clashes have taken place in which life was lost. In one case the police proved inadequate to preserve order and troops had to be sent to the scene. Only one familiar with Japan can fully realize what this means in connection with the despised Eta.

This movement if not properly handled may prove a very serious one for the Government. Representatives of the combined groups of Eta have come to Tokyo and laid their grievances before cabinet ministers and other prominent people, but with no apparent result. Indeed, it is difficult to see what the Government can do, because the disabilities under which the Eta live are not legal disabilities but only the result of years of custom and the feelings of other Japanese.

The subject has received considerable attention from the Japanese press, and several papers with commendable frankness have deplored that a class of Japanese should exist in Japan under disabilities that would raise a howl of protest from Japan if practiced against Japanese in any other country. Further, they state, it is a blemish on the good name of a nation that championed the equality of races at the peace conference in Versailles.

SUMMARY.

The Japanese Navy, while deficient in sea training, can be quickly and secretly put on a war footing and soon thereafter may attain a fairly high degree of effectiveness. Japanese naval officers feel that their naval position has been strengthened as a result of armament limitation and their increasing numbers of light cruisers, destroyers, and submarines.

The army is efficient and ready, though deficient to a certain degree in modern ideas of warfare.

Economic conditions are improving but are very dependent upon the continued buying of Japanese silk by America.

Politics is being influenced more and more by business.

The friendship of America is held valuable by the Government, but the people generally are still inclined to be suspicious and distrustful.

Social questions are assuming a greater importance, though they will hardly reach the acute stage in the near future.

JAPAN.

CASUALTIES TO SHIPS.

The following casualties to the ships comprising the first and second fleets occurred during the first three months of 1923 and indicate that the efficiency of personnel and material is not the highest:

Kirishima, battle cruiser: Struck an uncharted rock. Temporary repairs were made, and she was able to proceed to Sasebo under her own power.

Kumo, light cruiser: Had one engine disabled, which required her to go to Kure for repairs. While undergoing tests subsequent to repairs, steam pipe burst, seriously injuring one man.

Natori, light cruiser: Boiler or steam pipe burst, killing or injuring 13 men. Ship was able to get to Yokosuka under her own power.

Oi, light cruiser: Various defects have developed, necessitating vessel being withdrawn from the fleet and sent to Maizuru for three months' repairs. This vessel has had continual turbine trouble and shaft trouble since she was accepted.

Submarine 34 had a serious explosion (probably hydrogen) which damaged the vessel considerably, killing one and injuring several men. She was towed to Yokosuka.

One man on a submarine was killed when a tow-line parted.

Two men were washed overboard.

An epidemic of cerebrospinal meningitis developed on one or more ships.

According to one Japanese paper, other casualties occurred which are being kept secret by the naval authorities.

JAPAN.

ANGLE OF ELEVATION FOR TURRET GUNS.

1 April, 1923.

Since the receipt of information in Japan of the retraction by Secretary Hughes and Assistant Secretary Roosevelt of a statement made by Secretary Hughes in regard to the above subject in a speech in New Haven December 29, 1922, considerable discussion of the subject has taken place in the press of Japan. Nothing official has been given out, and newspaper statements are purely conjectural. However, from the tone of the articles one gathers that in Japanese opinion it is to the advantage of Japan that increases in angles of elevation of turret guns be made.

Reliable information indicates that the Japanese Navy expects to modernize, as permitted by the five-power naval treaty, the following

ships: *Hyuga*, *Ise*, *Yamashiro*, *Fuso*, *Kirishima*, *Haruna*, *Hiyei*, and *Kongo*.

That the *Mutsu* and *Nagato* are not included in this list would indicate that they are considered up to date. It is not known whether modernizing the above-mentioned eight ships is to include increasing the present angle of elevation of the main battery guns, or has only to do with increasing underwater and deck protection.

JAPAN.

BUILDING PROGRAM.

18 April, 1923.

According to information furnished the Diet by the ministry of marine (not for publication) the building program, 1923 to 1927, is as follows:

Six cruisers, 21 destroyers, 22 submarines, 5 special service ships.

This is a reduction of two cruisers and three destroyers from the tentative building program as announced by the Japanese Government July 3, 1922.

The following vessels are to be completed during the fiscal year 1923:

Three light cruisers, 8 destroyers, 1 submarine, 8 special service ships.

JAPAN.

AVIATION ACTIVITIES.

21 March, 1923.

LANDING ON "HOSHO" WITH AMPHIBIAN.

On March 13, 1923, in Tokyo Bay, under excellent flying conditions, Major Brackley, an ex-aviator of the British Royal Air Force, took off from and landed on the deck of the *Hosho* twice in a Vickers *Vicking* amphibian without incident of note.

On March 14, 1923, for the first time in the history of the Japanese Navy, a Japanese naval aviator landed in an airplane on the deck of a Japanese airplane carrier. Three landings were made on the *Hosho* by Lieutenant Kira, I. J. N., aviation officer of the *Hosho*, without incident. Weather conditions excellent; place, Tokyo Bay.

On March 16, 1923, Lieutenant Kira attempted to repeat his performance, but on the first landing his plane skidded overboard. Both aviator and plane were rescued, and later the same day Lieutenant Kira in another machine made two successful landings.

Mitsubishi single-seater machines were used in all these flights.

CAPTIVE BALLOON ON "MUTSU."

According to the Japanese press on March 29, 1923, the *Mutsu*, cruising from Kure to Osaka, carried a captive balloon.

This was stated to be the first time a Japanese man-of-war had cruised carrying a captive balloon.

PRIVATE AVIATION IN JAPAN.

According to the Japanese press, in March, 1923, there were in Japan 36 privately-owned airplanes involving a yearly expense of yen 232,472. Toward this amount the Government grants a subsidy of yen 80,000.

The conditions of this subsidy is not known.

AIRPLANES ON LIGHT CRUISERS, JAPANESE NAVY.

According to the Japanese press all light cruisers after the *Kiso* are to be equipped for carrying one airplane.

The take-off platform is to be on the port side forward. Land planes are to be used.

During the first half of the fiscal year 1923 the battleships *Fuso*, *Hyuga*, and *Ise* are to be equipped for carrying airplanes.

JAPAN.

MISCELLANEOUS NOTES.

18 April, 1923.

On April 1, 1923, officers as enumerated below were retired and placed in the reserve. It was a case of selection out, and a protest went up from some of the flag officers selected that may make itself felt in high political circles, due to clan and personal influence. However, it is not thought this will cause much embarrassment to Admiral Baron Kato or the "Kato group."

	Line.	Engineer.	Medical.	Pharmacist.	Paymaster.	Constructor.	Engineer-constructor.	Ordnance.	Total.
Admirals	3	0	0	0	0	0	0	0	3
Vice admirals	17	6	2	0	2	2	0	1	30
Rear admirals	29	8	4	0	7	1	1	2	52
Captains	86	41	28	3	16	1	0	0	175
Commanders	70	28	11	1	20	0	0	0	130
Lieutenant commanders	58	19	6	0	7	1	0	0	91
Lieutenants	19	10	3	0	2	0	0	0	34
Sublieutenants, first	0	0	0	0	0	0	0	0	0
Sublieutenants, second	0	0	1	0	0	0	0	0	1
Special officers (commissioned warrant officers):									
Sublieutenants, first	76	37	6	.....	10	9	0	.....	138
Sublieutenants, second	125	43	11	.....	11	12	[1] 2	.....	204
Grand total	.....	.....	.....	.....	.....	.....	.....	.....	858

[1] Band.

According to the Japanese press (various fragments pieced together), the navy department, after considerably study, began the building of mine sweepers some time ago. Four are to be built:

No. 1 at Kobe Steel Works (probably launched March 6, 1923.)

No. 2 at Tama Shipyard, Okayama (to be launched shortly).

No. 3 at Osaka Iron Works (to be launched shortly).

No. 4 at Sasebo (to be launched shortly).

When these are completed a mine-sweeping flotilla will be organized and attached to the fleet.

According to the Japanese press, an explosion occurred March 30, 1923, at the Maidzuru naval magazine, destroying half of one building and killing two men and injuring six others.

It is stated that the explosion occurred while work was being done on torpedo fuses.

On March 31, 1923, the destroyer *Sumire*, after many vicissitudes, was delivered to the navy.

Destroyer *No. 18* was launched at Fuji Nagata dockyard, Osaka, on March 19, 1923. Length, 275 feet; beam, 26 feet 6 inches; displacement, 900 tons; speed, 31½ knots.

FAULTY PUMPS INSTALLED IN PLANE CARRIER "AMAGI."

A small scandal has developed in connection with faulty pumps installed in the *Amagi* and other Japanese men-of-war.

These pumps were made by the Tokyo Gas Electric Industry Co., and are said to be made of very inferior material. On the *Amagi* 74 pumps are said to be involved, while a few similar ones are installed on the *Akagi*, *Hosho*, and the destroyers *Numakaze* and *Namikaze*.

The matter has been the subject of questions in the lower house and is now under juridical investigation. The preliminary investigation found eight persons involved, but how many of these were in the navy is not known.

Engineer Commander K. Mori, I. J. N., naval inspector, is charged with having accepted bribes for passing faulty material.

According to replies of the Prime Minister, the fraud was discovered last October. A naval investigation was ordered, and later the legal authorities took it up. The matter was kept secret for "certain reasons."

LATER—MARCH 28, 1923.

On the afternoon on which above was written, being the last day of the session of the Diet, a motion was introduced in the lower house of lack of confidence in the Minister of Marine (Admiral

Baron Kato, also Prime Minister) on account of the exposures in connection with the *Amagi*.

The opposition charged the navy with guilty knowledge of irregularities, lack of sincerity in investigation, and general rottenness. One member charged the scandal was as serious as the naval scandal of 1914 (Siemens-Shukert bribery). At one point the feeling ran so high that several fist fights took place, and the sitting was temporarily suspended. At midnight while the discussion was still heatedly going on the speaker declared the session of the Diet for business as ended, and no vote was taken on the motion. The motion unquestionably would have been defeated.

It is not believed that the matter is so serious as the opposition tried to make it appear. At the same time it is certain that bad material was supplied and accepted, though no senior officers nor navy clique has been connected up with the affair.

The following vessels have been dropped from the navy list as of April 1, 1923; *Suma* (OCL); *Niitaka* (OCL) (wrecked last year); *Sagi*, *Udzura*, *Hibari*, *Hashitake*, fifteenth torpedo boat division; torpedo boats *Nos. 72*, *73*, *74*, and *75*.

The disposition of the above-named ships is not definitely known (except for the *Niitaka*), but it is believed that the *Suma* is to be used for nonmilitary duty and the old torpedo boats will be turned over to the harbor authorities at various naval harbors for miscellaneous service.

The Prince Regent embarked on the *Kongo* on April 12, 1923, and sailed for a visit to Formosa.

The *Kongo* was accompanied by the *Hiyei* and *Kirishima*.

According to the Japanese press, the following 12 destroyers have been equipped for mine sweeping:

Eighth destroyer division: *Ariake*, *Fubuki*, *Kamikaze*, *Hotsushimo*, *Kisaragi*, *Hibiki*.

Twelfth destroyer division: *Uranami*, *Isonami*, *Minadzuki*, *Nagadzuki*, *Kikudzuki*, *Udzuki*.

FRANCE.

AIRCRAFT PRIZES AND COMPETITION.

6 February, 1923.

The French aeronautical world is greatly disturbed over the recent progress of the U. S. Army Air Service and the fact that all aeronautical records of any importance are now held by the Air Service of the United States. A determined effort is to be made by the aeronautical authorities (military and civilian), aircraft constructors,

and the press to recapture these records. The following list of prizes indicates the value which is placed upon these records in France:

ALTITUDE RECORD.

La Societe Francaise de Navigation Aerienne has just offered a prize of 10,000 francs for the first French aviator who attains or passes the altitude of 11,000 meters.

In addition, Mr. Rateau, inventor of the Rateau turbo-compressor and president of La Societe Francaise de Navigation Aerienne, offers a cup to be known as the "Coupe d'Altitude de la Societe Francaise de Navigation Aerienne," which is to be an international trophy to be awarded under conditions fixed by the Aero Club of France to the constructor or pilot attaining the greatest altitude under the conditions to be made public shortly.

Mr. Lamblin has also offered a "brassard" carrying with it a daily premium of 50 francs for the French pilot who succeeds in breaking the present world's altitude record. This daily premium will be paid to the altitude record holder, provided he is a French pilot, as long as he succeeds in holding the world's altitude record.

SPEED RECORD.

Mr. Lamblin also offers a daily premium of 50 francs to the French pilot during such time as this pilot may hold the world's speed record.

MOTORLESS AIRPLANE OR GLIDER FLIGHTS.

Mr. Levasseur, an airplane and propeller manufacturer, has offered a prize of 15,000 francs, to be awarded on the 1st of January, 1924, to the pilot making the greatest distance in a straight line from the point of departure to the point of landing in a motorless airplane. The departure must be made from French soil and the landing may be made either on French or foreign territory. The distance covered must be in excess of 10 kilometers.

Liore et Olivier have offered a prize of 15,000 francs for the French pilot who, during 1923, will make the greatest distance in a motorless airplane over a closed circuit without stop. The points of the circuit must be at least 1 kilometer apart and the distance covered must exceed 25 kilometers.

A prize of 10,000 francs has been offered by Messrs. Franchelli and Louvet for the motorless airplane attaining the greatest altitude from the 1st of January, 1923, to the 31st of May, 1923, and from the 1st of June, 1923, to the 31st of May, 1924. One-half of the prize will be awarded to the motorless airplane making the greatest height in each of these periods. Flights must take place over French territory.

Mr. Bleriot has offered a prize of 15,000 francs for a motorless flight across the channel and return. Flight to take place between the 18th and 31st of July, 1923.

In addition, other prizes have been offered for various purposes.

The Societe Zenith, carburetor manufacturer, has offered prizes totaling 200,000 francs, 140,000 of which will be distributed in three annual installments of 45,000 francs each for the best fuel consumption performance over the route Paris-Lyon-Paris during the month of July of three successive years. The remaining 60,000 francs is divided in three yearly prizes of 20,000 each for the best time by military pilot and aircraft over the course Paris-Metz-Strasbourg-Dijon-Lyon-Chateau-roux-Tours-Paris. This course may be run at any time from June 15th to June 15th of the succeeding year.

PARACHUTE PRIZE.

The Under Secretary of State has added 20,000 francs to the 20,000 francs offered by Nieuport-Astra for the best parachute manufactured by a French company.

SAFETY DEVICES.

The Union Pour la Securita en Aeroplane has awarded annual prizes for 1922 as follows:

Five thousand francs to Mr. Badin for certain navigating instruments; 10,000 francs to Mr. Loth, inventor of the Loth cable; and 10,000 francs to Mr. Aveline, inventor of the Aveline stabilizer.

FRANCE.

DEBRIE CAMERA MACHINE GUN.

13 April, 1923.

The firm Maison Debrie, manufacturers of cinematographic apparatus, of Paris, France, have perfected a new motion-picture camera designed for the purpose of training aerial gunners and obtaining accurate records of aerial target practices.

Two models have been completed, one resembling the Lewis gun and the other the Vickers machine gun. The camera is controlled by a spring and operates when pressure is applied to the trigger. The sights are identical to those used on the Vickers and Lewis guns. The magazines of the camera contain approximately 150 feet of motion-picture film and a lens of suitable focal length

is mounted in the muzzle of the gun. A clock is mounted below the muzzle of the gun in such a way that when the " gun " is in operation two photographs are taken at the same time, one of the target and the second of the watch. These do not appear on the same film, as with other camera guns, but one above the other. Cross wires show on the films, showing exactly the manner in which the gun was being trained on the target, and underneath in the following picture the time is shown to the tenth part of a second.

The writer was informed by M. Montalant, business manager of the Debrie plant, that this apparatus is being used exclusively by the French air forces and that his firm can not, at the present time, permit inspection of the gun by other governments. He explained the method employed in target practice as follows:

Two planes before taking off compare watches, the planes take off, one the target for the other, and target practice is conducted. Upon completion the films are developed and examination of the film, together with the times as shown by the photographs of the watch, determine which plane was first to put the other out of commission. An attachment is provided so that more than one gunner may take part in the exercises, as the name of the man operating the gun appears on the film. The Debrie camera gun resembles in all respects a machine gun, both physically and in the method of operation.

FRANCE.

SMALL AIRPLANES.

11 April, 1923.

The French airman, M. Barbot, has quickly followed up his experimental flight with his 2-cylinder 7–10-horsepower De Woitine with a practical demonstration of its possibilities.

After a trial flight on the new commercial aerodrome at Francazal on April 4, he decided to fly to Toulouse, nearly 10 miles away. The feat, which included a flight over the town of Toulouse, was accomplished without accident. He covered the distance at a good speed, and at an average height of 1,600 feet. After turning above the town he came down in the Avenue Pasteur, at the door of the De Woitine factory.

This is the first town-to-town flight made in a low-power airplane. It is estimated that this De Woitine airplane, which weighs under 500 pounds " with pilot," needs only four horsepower to sustain it in the air and to make it travel at 90 kilometers (56 miles) an hour. It is calculated that the machine could cross the Channel with the consumption of only about 2½ pints of petrol.

FRANCE.

NAVAL PROGRAM.

5 April, 1923.

The French naval program is not yet published officially, but the following, taken from the press, is believed to be the correct statement of what the Minister of Marine is asking of Parliament:

Authorization to construct, from 1925 to 1930, inclusive, the following light vessels:

Six cruisers (light), 15 destroyers, 24 torpedo boats, 4 submarines (coasting), 30 submarines (first line), 2 mine layers, 4 tankers.

ITALY.

AIRCRAFT CONSTRUCTION FOR GERMAN FIRM.

30 April, 1923.

The " Societe Anonyme Mechanische Marina di Pisa " is reported to be a branch concern of the Dornier Metallbauten, Friedrichshafen, organized in order to be able to construct large airplanes without conflict with allied restrictions over aircraft building in Germany. Some Italian finance is involved and it is spoken of as an Italian concern, but a large, if not a controlling, interest is retained by Zeppelin for Dornier. It is certain the technical side of the work is controlled by Herr Dornier, who spends part time in Pisa. The manager of the Pisa plant is Signor V. Ubaldi de Capei, an Italian who has spent 14 years in Germany with the Siemens Schuckert electrical concern. Later, during the latter part of the war, he was connected with the Savoia airplane concern. Most of the buildings of the present plant were erected during the war and used for building Savoia airplanes. Signor de Capei appears to be only the business head and does not concern himself with technical matters. There seem to be ample funds at his disposal for plant improvements, etc., and he reports increasing Italian interest in metal airplane development.

The plant was established in the spring of 1922. At present the only work in hand is an order for eight " Wal " type boats plus one or two " Falcon " type airplanes for the Spanish Government. In addition one or two " Dolphin " boats will be assembled. Four of the " Wal's " have already been delivered. They are fitted with tandem

Hispano-Suiza engines and the engines have given considerable trouble on delivery flights. The present orders will be completed within four months. Before that time Signor de Capei hopes to receive additional orders from Spain and some from the newly formed Italian Air Ministry.

The plant is located in a rather isolated position at Marina di Pisa, about 15 kilometers from Pisa, and on the open sea front. About 150 workmen are now employed who, on account of lack of quarters near by, must live in Pisa or other towns.

Workshops and similar buildings are of substantial and modern construction, mostly of brick. Construction facilities appear to be very complete with ample room allowed for expansion. Hangar facilities are not good but are to be improved. At present the assembly building is used as a hangar. There is no runway to the water. Launching is effected by means of detachable drumlike wheels which can be pumped out and floated. The method is said to work nicely but looks cumbersome. On account of low head room in the assembly building, large flying boats must be handled sideways, necessitating dolly trucks under the large drum wheels.

The shop equipment is new and is well arranged. The shop superintendent, Herr Berner, was for many years with the Luftschiffbau Zeppelin and Dornier Metallbauten and appears to be an excellent man who has risen to his new opportunities in good shape. He has selected and installed the most useful machines as determined from his previous experience in handling duralumin and steel.

In addition to Herr Berner, about 10 selected men (Germans) were imported from Friedrichshafen and occupy the leading positions in shops, office, and drafting room. Connections with Dornier Metallbauten are very close, and as much work as is legitimately possible is done at Friedrichshafen. All drawings appear to come from there, but they are checked and translated into Italian at Pisa. Duralumin shapes are made up at Friedrichshafen and shipped to Pisa for fabrication. The reason for this is that the work can be done more cheaply in Germany. Facilities for doing this work at Pisa are being installed. Duralumin comes from Durener Metallwerke, and also (so it is stated) from Vickers in England. It is claimed no differences of importance are noted in manipulating the two products.

The general character and quality of workmanship appears to be up to the usual high Dornier standard, which it duplicates in every way. It was stated the Italian workmen have been difficult to teach; and being rather more careless than German workmen, a specially stringent inspection system had to be inaugurated.

ITALY.

RUSSIAN PURCHASE OF AIRCRAFT.

The Russian Government has purchased 100 pursuit airplanes, Balilla type, from the Ansaldo Co. These machines are now being tested, packed, and shipped by way of Hamburg, Germany.

The Russian Government is also purchasing from the Società Idrovolanti Alta Italia (the Savoia firm) situated on Lake Maggiore, 35 seaplanes of the S 16 Bis type for bombardment and reconnaissance. A Russian pilot is at the factory supervising the testing of these machines, one-half of which are already completed. These machines are being prepared for shipment via Hamburg. They are being equipped with machine-gun turrets. All navigating instruments were observed to have instructions and indications written in Russian. Most of the instruments are of German make. The pursuit airplanes are being equipped for military use, but without the actual installation of machine guns.

From information gathered it can be reliably stated that no other Italian airplane or seaplane firms are constructing for Russia. Mr. Macchi, of the Nieuport-Macchi Co., seaplane and airplane constructors, and Mr. Caproni, stated that a Russian mission negotiated with them for the purchase of seaplanes and airplanes but that the negotiations finally broke down on account of unsatisfactory financial arrangements offered by the Russians. These negotiations called for shipments to be made to Odessa, the Russians paying two-thirds of the price of the machines before shipment and the balance after the machines had successfully passed a flying test at Odessa. A representative of the Savoia Co. stated that the financial arrangements made between his company and the commission were entirely satisfactory and that his firm is being paid in Italian lire on shipment of machines from Italy.

CHARACTERISTIC OF TYPES PURCHASED.

Ansaldo (Balilla type) pursuit airplane.

Power plant, 1 Spa 200 horsepower engine, 1,600 revolutions per minute.
Span, 7.68 meters.
Length, 6.50 meters.
Heigth, 2.85 meters.
Total surface, 21 square meters.
Weight empty, 540 kilos.
Useful load, 245 kilos.
Total weight, 885 kilos.
Load per square meter, 42.1 kilos.
Load per horsepower, 4.02 kilos.
Speed at ground, 200 kilometers per hour.

Endurance at 2,000 meters, 2 hours.

Climb to 1,000 meters, 2 minutes 40 seconds; 2,000 meters, 5 minutes 30 seconds; 3,000 meters, 8 minutes 20 seconds; 4,000 meters, 13 minutes; 5,000 meters, 22 minutes 40 seconds.

Coefficient of safety, 9.06.

Distribution of useful load.

	Kilos.
Fuel	113
Pilot	75
Armament	57
Total	245

This type of machine has been used also with the Isotta-Fraschini *V 6*, 260 horsepower engine.

S 16 Bis seaplane (flying boat type).

Power plant, 1 Fiat A 12 Bis 300 horsepower engine.

Span, 15.50 meters.

Length, 9.97 meters.

Heigth, 3.67 meters.

Chord (upper wing), 2.20 meters; (lower wing), 1.85 meters.

Total carrying surface, 59.15 square meters.

Weight empty, 1,700 kilos.

Useful load, 800 kilos.

Total weight, 2,500 kilos.

Load per square meter, 42 kilos.

Endurance with full military load, 6 hours.

Normal speed, 165 kilometers per hour.

Landing speed, 80 kilometers per hour.

Climb to 1,000 meters, 7 minutes; 2,000 meters, 18 minutes; 3,000 meters 48 minutes.

ITALY.

PURCHASE OF ITALIAN AIRCRAFT BY ARGENTINE AND BRAZIL.

The Socíeta Anonima di Costruzione Mechaniche of Pisa is constructing four large all-metal seaplanes for the Argentine Navy, to be shipped from Genoa in about four months.

All four machines are Dernier 1922 Wal. type, equipped with two Hispano-Suiza 300-horsepower engines in tandem. Monoplane flying-boat type, duraluminum and steel. The internal wing bracing is of steel and the vital parts of the boat are reinforced by high-grade steel. The following are the general characteristics of this type, showing its performance with two 260-horsepower Maybach engines:

Power plant, 2 Maybach engines, each 260 horsepower.

Length, 16.15 meters.

Height (maximum), 4.3 meters.

Weight, empty, 3,005 kilos.
Useful load, 1,450 kilos.
Maximum velocity, 180 kilometers per hour.
Normal velocity, 140 kilometers per hour.
Endurance, 6½ hours.
Coiling, 4,500 meters.
Consumption (maximum), 110 kilos per hour.
Consumption (normal), 90 kilos per hour.
Oil, 4 kilos per hour.
Crew, 1 or 2 pilots, 2 motor mechanics, and 2 machine gunners.
There is a post for one machine gunner in bow of boat; one aft.
Will carry 1,000 kilos of bombs inside the boat and released through the side floats or fins, which project out from the sides of the hull.

In view of the fact that these machines are intended for flights of six or seven hours, it is believed that the Hispano-Suiza engines will not be satisfactory. An engineer at the factory stated that the Rolls-Royce Eagle 300-horsepower engine may be substituted.

The Brazilian Government is having 18 airplanes of the SVA 10 type for reconnaissance constructed by the Ansaldo Co. They are to be equipped with Spa 200-horsepower engines.

The following modifications are being made:

(*a*) One Lamblin radiator under the fuselage between undercarriage struts instead of nose radiator.

(*b*) Lamblin oil radiator on right of fuselage near engine.

(*c*) An additional gasoline tank under engine, replacing oil tank.

(*d*) Oil tank placed on right side of engine.

Modified, these machines will be capable of flying eight hours, carrying one pilot, one observer, and a full armament.

They are to be shipped from Genoa within the next two months.

ITALY.

REORGANIZATION OF AERONAUTICS.

On the plan for the reorgonization of aeronautics in Italy to be carried out by a general commissariat under the management of Premier Mussolini and the Hon. Aldo Finzi, Assistant Secretary of the Interior, the following particulars have been published:

The commissariat of aeronautics will supervise two separate divisions of the aeronautical organizations; i. e., the military and commercial divisions.

The military division, to be called "Direzione generale di aeronautica militare" (bureau of military aeronautics), will be under the management of Colonel Moizo, a pilot, and will be composed of four divisions; i. e., air force, army units, navy units, technical division. Very likely Colonel Costanzi and Lieutenant Colonel Verduzio will be appointed chiefs of the technical division.

The commercial division, to be called "Direzione generale di aeronautica civile" (bureau of commercial aeronautics), under the management of Mr. Arturo

Mercanti, a pilot, will be composed of five divisions; i. e., constructions and supplies, air stations, air traffic schools, administration. Comm. Prassone will probably be appointed chief of the constructions and supplies division.

In the military general bureau the four above-mentioned divisions will attend to the following:

1. Independent air service to attend to the central bureaus of developments, preparation of personnel tables, inspections relative to the army and navy services and employment of the independent air force. This air force will be composed of six groups subdivided into squadrons. The groups will be for day and night bombing, pursuit, group for specialties (photography, radio, machine guns, torpedo planes, hydroplanes, airships), air defense group, and colonial aeronautics group.

2. Army air service to attend to the preparation of scouting groups, infantry cooperation, and fighting at low altitude, besides the group of kite balloons.

3. Navy air service to attend to the bureaus of developments, the preparations of personnel tables, inspections relative to the navy air services, employing the planes and pilots required.

4. Experimental armament and specialties service to attend to the experimental stations (aircraft, armament, technical contests, tests of types, etc.), and to the scientific division (aerodynamics, chemistry, physics, technology, engine developments, radiotelephony, and radiotelegraphy, aerial photography, and advanced specialized instruction).

The composition of the groups will be as follows:

The group commanded by an officer with the rating of colonel will be composed of either two or three squadrons. The squadron commanded by an officer with the rating of major will be composed of from two to four sections. Each section commanded by an officer with the rating of lieutenant will be composed of from four to six planes, piloted either by lieutenants or second lieutenants.

In the general bureau of commercial aeronautics the five above-mentioned services will provide for the subdivision of functions as follows:

1. Constructions and supplies division to provide for the materials, inspection of constructions, licenses, repairs, prices and raw materials bureaus, industrial mobilization, warehouses, and specialties.

2. The air stations division will include the following: Building, developments, routes and fields, air stations and maintenance of same, supply division, depots, intelligence office, emergency fields, aerology, lighthouses, and signals.

3. The air traffic division to handle the airway rights, the study of the air national map, the inspection of commercial air routes, sport and technical contests, statistics division, postal service.

4. The school division to provide for the elementary instruction of commercial and army pilots, licenses for commercial pilots, statistics and mobilization of flying personnel, mechanics and repair shops.

5. The administration division to handle contracts, funds, materials, and personnel.

The library division, printing, propaganda, and information bureaus will be attached to the general bureau of commercial aeronautics.

All the flying personnel, with the exception of a few officials pertaining to the administration, will have to make a specified number of air trips annually, and the chiefs of the new air organization will set the example, using the airplane as a normal means of transportation for their air service trips.

ITALY.

TORPEDO DISCUSSION.

The Italian Government has in the past used exclusively the 18-inch Whitehead torpedo and no doubt has a good supply on hand left over from the war. This is evidenced by the fact that many 18-inch torpedoes are being overhauled and put in condition at the naval arsenal at Spezia and at the Silirificio Italiano of Naples (Whitehead's old plant now privately Italian owned and managed—rumored property of Banca Commerciale). The Whitehead plant at Fiume no longer makes torpedoes and probably never will.

The Italian Government possesses a considerable number of ex-German and ex-Austrian torpedoes, captured at Pola and Fiume. The probable numbers as follows: 500-millimeter (19.7-inch) ex-German, 180; 533-millimeter (20.8-inch) ex-Austrian, 40. Having these torpedoes, the torpedo tubes, twin and triple, are being modified for them, and will be installed on some of the new boats. However, this seems only a makeshift policy, as it means a change when torpedoes are exhausted, or the manufacture of the German and Austrian torpedoes by the Italians.

The whole torpedo situation in Italy is more or less in the air. The Government seems to wish to advance to a 21-inch or 24-inch torpedo, but perhaps doubts its ability to develop and manufacture a successful torpedo. Having been dependent upon the Whiteheads for so many years is a great handicap and has no doubt resulted in the ministry of marine paying little attention to the subject. Now Whitehead is entirely out of Italy, both the Fiume and Naples plants, and old Whitehead men say that they doubt very much that the Italians themselves can develop and manufacture successful torpedoes until a long time has elapsed in experimentation and specialized plant organization. The only Government yard equipped to manufacture torpedoes is at Spezia. The only other source of supply is the new Silurificio Italiano at Naples (old Whitehead). The latter plant is now developing a new torpedo engine on the lines of an aviation engine, four cylinders to each propeller and the cylinders in one block.

The Italians have always bought their air flasks (during the war from Bethlehem), and it is much doubted if they can produce them for some time to come. The Silirificio has an order now for some experimental 23.4-inch flasks, which would seem to indicate a new ministry design, perhaps based on the ex-German 6,000-millimeter (23.4-inch) undamaged air flasks gotten from Pola or Fiume after the war.

THE PRESENT SITUATION IN THE BALKANS.

Source: Various.

TURKEY.

THE MILITARY FORCES.

An estimate, March, 1923, placed the combat strength of the Turkish Army at about 100,000, with a ration strength of about 233,000. It was estimated that the trained reserves amounted to 575,000, with a rough suggestion of 1,300,000 for the total man power of the Turkish forces.

THE DISTRIBUTION OF FORCES:

Normal distribution:

General headquarters at Angora.

Western army confined in eastern Thrace and western Asia Minor.

Iraq army on the frontiers of Syria and Iraq, with headquarters at Diarbekr.

The Turkish Caucasus army on the Caucasus frontier, with headquarters at Sari-Kamish.

The interior troops, with headquarters at Sivas.

Present distribution:

	Ration strength.	Combat strength.
Eastern Thrace	18,000	8,000
Western Asia Minor	168,000	74,000
Frontier of Iraq	10,500	3,500
Frontier of Syria	10,500	3,500
Caucasus frontier	26,000	11,000

There has recently been reported a concentration of troops on the frontiers of Iraq and Syria, in response to which the French have announced that they are dispatching an additional 20,000 colonials.

EFFICIENCY AND MORALE.

The enthusiasm and vigor of the soldiers, which was raised to a high pitch by the victory of the army over the Greeks, has deteriorated through the long period of inactivity, during which they have been poorly clothed and housed. However, they are known for great hardihood and resistance to disease, and every report upon their condition shows them to be well uniformed and officered, but poorly supplied with arms and ammunition. The cavalry and infantry are armed with various types of rifles, mostly Turkish and Russian, and a great many of these, with the ammunition required for them, were received by the Turks through the port of Samsun, delivered by the Soviet forces in the Black Sea. Concerning artillery, estimates place the numbers as 270 pieces of light artillery and 98 pieces of medium ordnance on the western front. They are mainly of Skoda

and Krupp manufacture. There are some guns in place (reported as between 6 and 8 inch) about Smyrna and Samsun.

The aviation equipment consists of an original outfit of about 30 planes of the Spad class, and 9 Fokker pursuit planes, in addition to some 30 or 40 planes captured from the Greeks. There is a notable lack of spare parts and repair facilities.

There are no tanks, very few automatic rifles, and no known provision of any sort for the use of gas.

In general, all the technical equipment is of a rudimentary sort. Medical supplies are crude and insufficient. The transport service is poor and inadequate to supply a large mobile army. The general type of transport is a small, wooden, four-wheeled country wagon, homemade, without springs. Pack transport both by donkey and camel is very much used, and the rate from Samsun to the front in western Anatolia during the past offensive was about 2 shells per donkey, and 40 days for the round trip. The men are reputed to be poor riflemen, and the army as a whole is considered far below the standard of efficiency of European armies excepting those of Greece and Rumania.

THE PRESENT SITUATION.

During the conference of the delegates at Lausanne the armistice of Mudania is held to be in force. Allied troops occupy Constantinople, Chanak, and Gallipoli, while the Greek Army is in Thrace. There follows a digest of the present distribution of the forces concerned:

In Constantinople and the zone of the straits:

British	19,000
French	7,500
Italian	500

Of these there are about 15,000 allied troops in Constantinople and 11,000 in Chanak and Gallipoli.

The Turkish Army in western Anatolia totals about 90,000, and there are about 8,000 gendarmes in Thrace.

In Syria there is a French force of about 26,000 troops, with reinforcements totaling roughly 20,000 en route. These forces are composed mainly of colonials.

In Palestine there are 350 British troops with a main force composed of about 2,400 Indian troops.

In Iraq there are some 3,000 British troops, 7,700 Indians, and 5,000 native Levies. The 3,000 British troops include the personnel required for the operation of eight squadrons of aircraft. The Royal Air Force is officially charged with the present defense of Iraq, and the aircraft are the means of its main defense.

The Turkish forces in a position to oppose the Allies in Syria, Palestine, and Iraq consist of about 60,000 men, divided as follows: 45,000 at Diarbekr, where they are in a position to be sent west against Syria or east against Iraq; about 13,000 in the country about Alexandretta; about 2,000 on the immediate border of Iraq.

THE ECONOMIC SITUATION.

The various foreign loans of the Turkish Empire were consolidated in 1881 under what was called "the unified debt," and the supervision of it was placed under a committee of foreigners, representing various European countries which held the Turkish bonds. This body operated under the title of the council for the administration of the Ottoman debt. The payment of the interest of the investors was assured by the council's control of the finances of the country to the extent that they had full disposition of the revenues on salt and tobacco, spirits, the fisheries, and various other articles. The service of the council was so successful in securing the interest for the investors in early Turkish loans that in subsequent loans it was habitually provided that the interest was to be secured by this body; and as the foreign debt increased, the situation became such that the council was, as a matter of fact, in control of the finances of the Turkish Empire, and the financial minister was unable to collect the revenues until the council had abstracted the money which was due to the investors holding the bonds. The abolition of this system is a thing upon which the Turks are particularly adamant at present. They are determined to have no foreign interference in the conduct of their own Government, and it is upon the point of the reestablishment of the council that they are particularly determined.

AGRICULTURE.

About 10 per cent of the country is under cultivation. The most productive regions are around Aiden and Adalia on the Mediterranean. The chief products are cotton, tobacco, olives, and grapes. Northwestern Anatolia, along the borders of the Black Sea, is the next most productive area. Tobacco is the chief product, and fruits, nuts, hemp, and flax are subordinate productions. For the whole of Anatolia the chief products are wheat and barley, fruits, nuts, lima beans, tobacco, cotton, flax, and hemp. Agriculture is in a very backward state, and the methods and implements are primitive. The utter lack of transportation facilities discourages production beyond what is required by the locality, and makes it impossible to market a surplus.

MINING.

Due to the present disordered situation, mining is in a very stagnant state. Immediately preceding the World War Turkey exported annually more than 25,000 tons of chrome ore, 14,000 tons of lead ore, 6,000 tons of iron ore, and 4,000 tons of zinc ore. In addition, there were 900 tons of copper ore annually exported, but this is no indication of the amount in the ground. One of the most famous copper mines of the world is the Argana mine, near Diarbekr. It is estimated to contain 2,500,000 tons of ore.

Coal.—The richest known local deposit in Anatolia is on the Black Sea coast between Eregli and Ineboli. The coal is bituminous and excellent for coke. The region has an output of about 1,800 tons a day.

COMMERCE.

Before the World War England absorbed about 22 per cent of the exports and sent about 20 per cent of the imports into Turkey. During the last few years America has challenged the British position, and our annual trade with Turkey now amounts to about $100,000,000. The chief exports to America are tobacco, flax, mohair, wool, carpets, and rugs. The chief imports from America are flour, leather, leather goods, cotton and woolen goods, and illuminating oil.

One detail of the economic capitulations imposed by the Allies before the World War was a provision that not more than 11 per cent ad valorem duty should be imposed on any goods imported into Turkey. This was abrogated by the Turks during the war, but was revived by an imperial decree on the 13th of December, 1921, by the existing Turkish Government in Constantinople under pressure of the Allies. The National Government has denounced this and has expressed its intention of abrogating it definitely. In addition to that they have since imposed specific duties in general of a very high percentage. A very high tariff is imposed on such articles as footwear, ready-made clothing, textiles used in tailoring, and all luxuries, with a declared intent of preventing the exploitation of the people in Turkey by foreign manufacturers and of inducing the Turks to go about the business of making their own provisions. The bulk of the foreign trade of Turkey passes through Smyrna and Constantinople. Samsun and Trebizond are the main ports on the Black Sea. In lower Anatolia the principal entry ports are Alexandretta and Mersina.

FOREIGN INTERESTS AND CONCESSIONS.

The financial and economic interests of France in Turkey are greater than those of any other country. In 1913 the French interest

in Turkey was 50.5 per cent of the whole foreign investment against the 14.3 per cent of the British, and it was estimated that 1,000,000,000 gold francs were invested by French capital in private enterprises in Turkey. The French interest in the pre-war Turkish national debt is over 60 per cent.

Under the treaty of Angora, ratified November 6, 1921, France received a number of economic concessions as follows: French economic priority in the districts of Adana, Sivas, Diarbekr, and Harput; mining concessions for iron, cromium, and silver in the valley of Harchute for 99 years with opportunity to acquire on favorable terms other concessions for industries and utilities. The French have also concessions for the operation of the Bagdad Railway from the Mediterranean to the Tigris River. On May 16 it was announced at Lausanne that a British syndicate, backed by the Anglo-Persian Oil Co., had succeeded in buying the last shares required to give them a controlling interest in the whole Anatolian Railroad.

A reported secret treaty of November 25, 1921, between Turkey and Italy provides for Italo-Turkish economic collaborations, with priority for Italy in the Sandjaks of Adalia, Mengla, Bourdour, and Sparta, and in parts of the Sandjaks of Afium-Karahissar and Kutahia. It is reported also to confirm old Italian concessions to exploit the coal fields of Eregli and Bassin.

With respect to concessions in general, the Allies are demanding the restoration of all those granted before the 1st of August, 1914, with various desirable revisions, and they also demand that the agreements made between the Ottoman Government and the concessionaires since Octover 30, 1918, be confirmed. Turkey declares void all such concessions made by the Constantinople Government since the 16th of March, 1920 (the date of the allied occupation of Constantinople). It is the expressed intention of the present Government to interest foreign capital as much as possible, but they are demanding that in all concessions the foreigner associate himself with Turkish shareholders to the amount of 50 per cent of the interest, that Turkish labor is employed exclusively, and that technical training schools be established to enable the Turks gradually to obtain the experience necessary to enable them to replace the foreign technical personnel.

BANKING.

The banking system is controlled by foreigners, the French being predominant. The Imperial Ottoman Bank, founded in 1863 by French and British capital, controls about one-third of the commer-

cial banking business of the Empire, and is the dominating financial influence. Other important banks are Credit Lyonnais (French), the Russian Bank (Russian), Banco de Roma (Italian), Bank of Athens (combination of French and Greek), Bank of Salonica (French), Banco Commerciale Italiana (Italian).

GREECE.

THE MILITARY SITUATION.

An estimate in February, 1923, of the present strength of the Greek Army was 115,000, with 239,000 trained reserves under the age of 41 years. The distribution in the spring of 1923 was as follows:

The Fourth Corps, strength 35,000, near the Maritza River.

The Third Corps, strength 30,000, in the vicinity of Dedeagatch.

The Second Corps (in reserve), strength 25,000, near Saloniki.

The Fifth Corps at Janina.

The First Corps at home, near Athens, and a part of it stationed in Crete.

Equipment.—Various types of rifles are used by the infantry, chiefly Mannlicher, Lebel, and Mauser.

Artillery.—There are 184 pieces of mountain artillery, 92 field pieces, and 46 pieces of heavy ordnance. On the whole, the army is very deficient in artillery, and a great quantity of stores of this kind were lost in the retreat from Asia Minor.

Aviation.—The army has 27 planes; the navy has 12 De Haviland 4's in condition to fly, and 3 serviceable seaplanes.

Morale.—The troops which were driven from Asia Minor have been reorganized into active corps along the Maritza River, and the morale has been greatly improved by the appointment to them of young and vigorous officers who are endeavoring to instill the idea into the troops that they were not defeated in Asia Minor, but were withdrawn because of political reasons. It has lately been announced (May 14–15) that these troops may make a sudden descent upon Constantinople in the event that the conference at Lausanne does not produce the results that they desire. It has recently been announced (May, 1923) that Greece has concluded an agreement with Yugoslavia on the subject of economic privileges, including an outlet for Yugoslavia commerce at Saloniki, and this understood pooling of her interest with Yugoslavia with her strong army has led to immediate threats concerning the descent upon Constantinople.

BULGARIA.

THE MILITARY SITUATION.

Under the treaty of Neuilly the Bulgarian forces are restricted to 20,000 in the regular army, 10,000 in the gendarmerie, and 3,000 in the frontier guards. On the 1st of October, 1922, the forces consisted of:

Regular army	8,175
Frontier guards	3,198
Gendarmerie	4,982
Total	16,355

There are no organized reserves. Of an estimated man power of 600,000, it is calculated that 500,000 have seen service. The discipline of the regular forces is lax and the morale of the men is poor, due to the low rate of pay.

The navy.—Under the terms of the treaty of peace the Bulgarian Navy was dissolved. In order to evade the restrictions, a personnel of about 500 is retained as a sea gendarmerie. There are four small torpedo boats of about 150 tons, each with two 6-pounders, but with no torpedoes. There are also five submarine chasers.

The present situation.—Bulgaria is so reduced in forces and arms by the treaty as to be unable to wage war alone. She is also compelled to pay an indemnity of two and one-half billion francs, as well as make large deliveries of coal, etc., so that she is very weak financially. She is still strong in trained men, however, and needs only arms and supplies to become a strong factor in war. She aspires to reunite within her boundaries the portions of Macedonia, Dobrudja, and Serbia, in which Bulgarians predominate, and is also interested in procuring an outlet to the Ægean Sea. As she is surrounded by her former enemies who are united against her, Bulgaria looks to Turkey or Hungary or Russia for an alliance, with the possibility of Italian sympathy for any movement tending to reduce the importance of Yugoslavia.

THE KINGDOM OF THE SERBS, CROATS, AND SLOVENES.

The most recent estimate of the strength of the army of this kingdom is 80,000 for the regular army and 114,000 in the active reserves. Approximately all men between the ages of 21 and 45 have had military training. The discipline is rigid and the morale is very good. Service is compulsory.

The equipment is mainly of French make and is in fair condition.

RACIAL TRAITS.

There are three branches of Yugo-Slavs: (1) The Serbs are the controlling element. They are members of the Greek Orthodox Church. They are generally considered to have more imagination and more expression than the others. Besides forming the main population of Serbia and Montenegro, they have spread also into Crotia, Slavonia, Bosnia, Herzegovina, and Dalmatia. (2) The Croats mainly inhabit Croatia and Slavonia, but they have spread also into Bosnia, Herzegovina, Dalmatia, and Istria. They are Roman Catholics. Their language differs very little from the Serbian. (3) The Slovenes are also Roman Catholics, and their language is a little more removed from the Serbians' than that of the Croats. They are mainly a quiet agricultural people with strong local traditions.

About 750,000 of the Serbs and Croats of Bosnia and Herzegovina are Mussulmen in faith. About 50 per cent of the total Serbian population is Mussulman.

RUMANIA.

The estimate of the military strength of Rumania in the spring of 1923 was 200,000, with 900,000 trained reserves. Due to the disaffection of the many alien elements which have been incorporated in the population since the war, the military man power of the kingdom is less than the population would seem to warrant. The main portion of the army is mobilized on the Russian frontier, with the second largest force on the Bulgarian frontier. The efficiency and morale of the Rumanian Army and Navy is inferior to that of the neighboring forces. A British naval mission is engaged at present in helping reorganize the naval establishment. The naval force consists of 1 old cruiser, 2 modern destroyers, 4 small gunboats, 7 torpedo boats of about 250 tons, 7 small-river torpedo boats, 8 river monitors, and 12 small patrol boats.

The two modern destroyers are the only ones capable of going to sea.

THE INTERNATIONAL SITUATION.

Bulgaria, Hungary, and Russia are potential enemies. Treaties with Czechoslovakia and Yugoslavia provide for military support of these countries in case of any aggression by Hungary or by Bulgaria. A treaty with Poland arranges for assistance in case of aggression by Hungary or Russia. Alone, Rumania is not capable of withstanding a Russian attack, and there is also a menace of Russia, allied with Hungary and Bulgaria, opposing Rumania and her allies.

TURKEY.

ESTIMATE OF THE POLITICAL-MILITARY SITUATION.

19 April, 1923.

The Law of Fundamental Organization gives expression to the form and organization of the present Government. A new Turkish constitution will develop ultimately, with this document as a basis:

LAW OF FUNDAMENTAL ORGANIZATION.

ARTICLE 1. Sovereignty belongs to the nation without reservation or condition. The administration of the nation's sovereignty is based on the principle of the direct decision of the people.

ART. 2. The executive power as well as the legislative power is concentrated in the Grand National Assembly of Turkey, which alone represents the nation.

ART. 3. Turkey is governed by the Grand National Assembly, and its Government is entitled "the Government of the Grand National Assembly."

ART. 4. The Grand National Assembly is composed of members elected by the inhabitants of the Vilayets (States).

ART. 5. The election of members of the Grand National Assembly takes place once in every two years. The duration of membership is two years only. Members may be reelected. The assembly continues its session until the new assembly is convened. In case it is impossible to hold new elections, the session of the assembly may be prolonged for one year only. Each member of the Grand National Assembly represents not only his Vilayet, but is also a representative of the nation.

ART. 6. The general session of the Grand National Assembly takes place on the 1st of November without convocation.

ART. 7. Fundamental rights, such as the enactment of dispositions of the Sheriat (Moslem religious law); the making, modification, and abrogation of laws; the conclusion of conventions and treaties of peace, and the call for the defense of the country belong to the Grand National Assembly. The making of laws shall be based on principles of jurisprudence which are most closely adapted to the needs of the nation and to the requirements of its customs and habits. The powers and duties of the council of mandatory ministers of the nation shall be determined by special laws.

ART. 8. The Grand National Assembly administers its governmental departments through mandatory ministers elected by the assembly according to rules to be provided in a special law. It is the Grand National Assembly which instructs the mandatory ministers in executive matters and, if necessary, changes the ministers.

ART. 9. The president elected by the Grand National Assembly in plenary session is the president of the assembly during one electoral period. In this capacity he is authorized to sign and ratify the decisions of the council of mandatory ministers in the name of the assembly.

ART. 10. In accordance with geographical and economic requirements, Turkey is divided into Vilayets (States), the Vilayets into cazas (counties), the cazas into nahies (townships).

ART. 11. In local matters the Vilayet has an autonomous personality. With the exception of internal and external policy, the sheriat, justice, military affairs, international economic relations, Government imposts and inter-Vilayet matters, the Vilayets are charged with the administration, under laws to be

promulgated by the Grand National Assembly, of the Evkaf (Moslem religious endowments), educational institutions, sanitary services, local economics, agriculture, public works, and social services.

ART. 12. The Vilayet councils are composed of members elected by the inhabitants of their respective Vilayets. The terms of office of the councils are two years only, and the duration of their annual sessions is two months.

ART. 13. The Vilayet council chooses from among its members a president and an administrative committee. The president is the executive chief. The administrative committee is composed of the heads of each administrative department. The executive power in the Vilayet belongs to this committee, which sits continuously.

ART. 14. The vali (head of the Vilayet) represents the Grand National Assembly in his Vilayet. He is appointed by the Government of the Grand National Assembly, and his duty is to administer the national affairs in the Vilayet. The vali interferes in the administration of the Vilayet only in case of conflict between national and local affairs.

ART. 15. The caza (county) is an administrative police unit only. It is administered by a kaimakam, who is appointed by the Government of the Grand National Assembly and is under the orders of the vali.

ART. 16. In local matters, the nahie (township) is an autonomous personality.

ART. 17. The nahie is administered by a general council, an administrative committee, and a mudir.

ART. 18. The general council of the nahie is composed of members elected directly by its population.

ART. 19. The administrative committee and the mudir of the nahie are elected by its general council.

ART. 20. The general council and the administrative committee of the nahie are vested with juridical, economic, and financial powers, the extent of which are to be fixed by special laws.

ART. 21. The nahie is composed of one or more villages. A town may also constitute a nahie.

ART. 22. The vilayets are grouped, according to their economic and social relations, in general inspection districts.

ART. 23. The duty of assuring order and security in the general inspection districts, and inspection of all administrative services, the coordination and regulation of the common affairs of the vilayets grouped in the general inspection districts, are committed to the general inspectors, who will control the relation of national and local matters in their districts.

CABINET.

The powers and functions of the cabinet members are outlined in the Law of Fundamental Organization.

Composition.—President of the cabinet (Prime Minister), Minister of Foreign Affairs, Minister of Finance, Minister of War, Minister of Interior, Minister of Public WoWrks, Minister of Public Instruction, Minister of Economics, Minister of Sacred Laws, Minister of Public Health, Minister of Justice.

JUDICIAL.

There are two distinct classes of law in Turkey:

(1) The law of the Cheri, based on the precepts of the Koran, governs marriage, divorce, all family relations, inheritance, and many other questions directly concerning the life of the people.

(2) The law Ottoman, or secular law, covering ordinary civil and criminal cases. The law was built up principally during the Nineteenth century and has derived most of its foundation from the Code Napoleon.

II. Courts.

As there are two kinds of law there are necessarily two distinct orders of courts, the secular courts and the courts of the Cheri.

(*a*) *Secular courts.*—The secular courts are divided into two chambers, civil and criminal, and in some of the higher courts a commercial chamber is added. The various grades of court are the courts of the peace, corresponding to a justice of the peace; the courts of first instance; the courts of appeal, one in each vilayet; and the "cour de cassation."

(*b*) *Composition.*—The courts are usually composed of a president and three or four councilors, or judges, for each chamber (civil, criminal, and commercial).

(*c*) *Appointment.*—There is a permanent judicial hierarchy, judges being appointed originally in the courts of first instance and promoted therefrom.

III. Courts of the Cheri.

(*a*) In his capacity as religious adviser to the Sultan the Sheik ul Islam stands at the head of the courts of the Cheri. The highest court is the houzour, composed of several religious functionaries and presided over by the Sheik ul Islam. Below this court is a series of courts of appeal, of investigation, and a "cour de cassation."

The religious judges in the vilayets, sandjaks, kazas, and cities are generally known as kadis and have a hierarchy consisting of five grades.

There exists in every community where there is a court of the Cheri an official known as the mufti. Though not a judge himself, he is always an authority on the Koran and is charged with giving an opinion on questions of doctrine when such opinion is requested by the judge or by one of the parties interested in the trial.

IV. Capitulations.

The capitulations are the agreements entered into by treaty between the Ottoman Government and foreign powers governing the treatment of foreign subjects residing or traveling within the limits of the Empire. They cover such questions as trading privileges, exemption from certain taxes, and laws applicable only to Ottoman subjects, and provide for trial in the consular courts of all cases civil or criminal involving two foreign subjects. In the case of an Ottoman versus a foreign subject the trial takes place in a Turkish court, but special measures are provided to safeguard the rights of the foreigner. The capitulations form the basis of all relations

between Turkey and foreign nations, hence are of the utmost importance. They were abrogated during the war but reestablished after the armistice and have been denounced by the Grand National Assembly, forming now one of the subjects of dispute between the Allies and Turkey. They will be entirely swept away or materially modified in the peace agreement to be made.

CALIPHATE.

The separating of the church and state was accomplished by the National Assembly in the passage of the following laws:

ARTICLE 1. From March 16, 1920, and forever the government of the nation is placed in the hands of the National Assembly. No other form of government will be recognized, and the people will recognize no personal authority such as that of Constantinople.

ART. 2. The Caliphate will continue to be exercised by the Osman family, but the assembly will choose the prince whose moral quality, talent, and conduct will make him worthy of this task. The Turkish Government will be the principal rampart of the Caliphate.

The National Assembly has further referred to a commission for study and report a motion made to fix the functions of the Caliphate. It has also assumed the right to appoint the Sheik ul Islam, formerly appointed by the Sultan-Caliph, whose opinion and rulings in all that pertained to the Sheriat or sacred law was final. This gave the Sheik ul Islam a tremendous power. It seems now that the power and functions of the Caliph and the Sheik ul Islam will be restricted and placed largely under the control of the assembly. Article 7 of the Law of Fundamental Organization provides for this. The former Sultan-Caliph was given asylum by the British and is now living at the court of the King of the Hedjaz, who has claims, as a direct descendant of the Prophet, to the Khalifate. It is presumed that the British plan to divide Islam, if practicable, by influencing the former Sultan-Caliph to transfer his own claims to Hussein, thereby bidding for support of an Arab Khalifate. At present the indications are not favorable, as the Indian Mohammedans, as well as a great part of the Arabs, are inclined to support the Caliph designated by Turkey, the strongest temporal power of Islam.

PAN ISLAMISM.

The political aspect of Pan Islamism with reference to Turkey deserves consideration. There is no doubt that the Moslems of the world consider Turkey, as the strongest temporal Moslem power, the chief bulwark of Islam, and therefore desire the preservation of Turkey. The sympathies of these peoples have been with Turkey

during the recent war for independence. This attitude affects the relations with Turkey of those colonial powers holding sway over Mohammedan populations, notably England and France. Under present conditions it is not likely, however, that Turkey can unite Islam in any war. The attempt to accomplish this during the World War failed. The aspirations of the various peoples are nationalistic. Even in their religion there are many different sects and there is little chance of these diverse peoples uniting in a holy war. The separation of the church and state in Turkey further decreases the chances of such action.

NATIONAL ASPIRATIONS.

The Young Turks, or the Committee of Union and Progress, guided the destinies of Turkey from 1909–1918. The Young Turks were divided into groups with divergent political aims, but control of the committee was gained by the group aiming to reconstruct the Turkish Empire through Pan Islamism. Enver Pasha and Talaat Pasha were the leaders of this movement. The former was the outstanding leader and dreamed of becoming a second Napoleon. Upon the collapse of the Central Powers and the occupation of Constantinople by the Allies, the high commissions of the Allies wielded the real power of government from 1918–1920. In 1919 Mustapha Kemal and Raouf Pasha began the separatist movement, culminating in the formation of the National Assembly, set up their own government at Angora, and began the struggle for Turkish independence. The objectives of this movement are as set forth in the National Pact as follows:

> The members of the Ottoman Parliament believe that the independence of their country will be assured in adhering to the following principles, which, according to their view, comprise the maximum of sacrifices which they can make toward obtaining a just and durable peace. They also believe that the existence of a durable Ottoman sovereignty can not be possible should the following principles not be respected:
>
> ARTICLE 1. The fate of that portion of the Ottoman territory which was under enemy occupation at the time of the conclusion of the armistice in October, 1918, will inevitably be regulated by plebiscite, the territory in question being inhabited by an Arab majority.
>
> Those portions of Ottoman territory within as well as outside the armistice line, which are inhabited by Ottoman Mussulman majorities, united among themselves by religion and racial ties and by a common ideal, as well as by sentiments of mutual respect, constitute an indivisible whole; division thereof is impossible, either in theory or in practice.
>
> ART. 2. We accept a new plebiscite, if necessary, for the three districts, Kars, Ardahan, and Batoum, which joined themselves to the mother country by vote of their inhabitants just as soon as they recovered their liberty.
>
> ART. 3. The adjustment of the question of Eastern Thrace, which had been disputed with Turkey up until the conclusion of peace, will be made the subject of a plebiscite executed with the fullest liberty to its inhabitants.

ART. 4. The safety of Constantinople, headquarters of the Mussulman Caliphate and capital of the Ottoman Empire, as well as that of the Sea of Marmora, must be assured. This condition, once complied with, Turkey will then treat with the allied authorities the subject of the opening of the Straits to world commerce.

ART. 5. The rights of minorities will be guaranteed by us in the hope that the same rights will be granted to the Mussulman populations in contiguous territories.

The question of guaranties will be subject to the same laws and principles which have been established between the Entente and its enemies and between the Entente and some of its allies.

ART. 6. Our highest and most vital principle is (to have) entire independence with which, as (in the case of) all other countries, we shall be able to develop ourselves both socially and economically.

As a consequence we are opposed to all restrictions which are but obstacles to our political, judicial, and economic development. The terms of the payment of our debts, which will certainly be settled, must not be contrary to the spirit of this principle.

It will be noted that the pact expresses the spirit of nationalism; that the party in power strives for complete sovereignty of Turkey over Turkish peoples and seems not to aspire to Pan Islamism.

POLITICAL PARTIES AND ISSUES.

During the war against the Greeks the slogan of "No parties while fighting for independence" obtained. The adoption of the special law providing for the election of the members of the cabinet by direct vote of the National Assembly from its own members, and depriving the president of the former power to nominate candidates from which number one was chosen by the assembly, practically stripped the president of power and rendered necessary the formation of a united majority, through political parties.

The organization known as the "Group for the Defense of Anatolia and Eastern Rumelia," which was the moving spirit of the war for independence and which had branches all over Anatolia, came to the front as a political party, and in spite of bitter opposition succeeded in electing its candidates, including Mustapha Kemal.

The present parties seem divided on the issue of present peace negotiations, the Kemalists desiring to make some concessions to the allies while the opposition, headed by Fevzi Pasha, chief of the general staff, is determined to insist on the terms of the National Pact, without modification.

The opposition party is being stimulated in every way by the Soviet Government and has become so strong as to endanger control by the Kemalists. This has resulted in the recent vote to dissolve the assembly and to hold new elections. This action was forced by the Kemalists who hope to return a decided majority in support of

their platform. It is expected that the new assembly will meet in June, until which time the present assembly will function.

FOREIGN RELATIONS.

Occupying as it does the strategic position controling the Straits, the only exit from the Black Sea, and containing within its borders the historic commercial and military routes of penetration to the East, Turkey is a most important factor in all that pertains to the control of the much-desired territories of Asia. It blocks the extension of Russia and threatens the hold of any country obtaining control of Persia, Syria, Arabia, India, and Northern Africa, not only by reason of its geographical position but by the ever impending threat of Pan Islamism.

England has always recognized the necessity of preventing any rival power from overthrowing Turkey and securing possession of the all important gateway. Her traditional policy has been to preserve the integrity of Turkey and to exercise a dominating friendship, thus securing her empire of the East.

Unfortunately for England, influenced probably by the defection of the Turk during the late Great War and thinking to exercise more dominance through control of the Greeks, she backed the wrong horse, which misadventure resulted in reviving a new Turkey, hostile to England and with the strength to threaten English interests.

The Turkish-British differences at the Lausanne conference were chiefly political and concerned the Straits and Mosul. Now that the principle of freedom of the Straits with a demilitarized zone has been conceded, the only real issue at present between Turkey and England is Mosul. The immensely valuable oil fields located there make this district a bone of contention, although neither party will admit this to be the real reason. As a matter of fact, the district is of small importance otherwise. It is inhabited chiefly by Kurds and a small mixture of Turks. The Turks claim it as a corollary to their principle of nationalism, arguing that the Kurds are more Turkish than Arab and that they desire to remain within the Turkish State. They are willing to accept a plebiscite. Great Britain refuses the plebiscite, claiming that under the mandate for Iraq a treaty has been made with Iraq by Great Britain guaranteeing to Iraq the possession of Mosul, and that, furthermore, the Kurds are not Turks and do not desire to become such; that the economic outlet of southern Kurdestan is through Iraq; and finally, that the control of this district by Turkey would menace the safety of Iraq. Both Turkey and Great Britain have constantly endeavored to secure the support of the Kurdish leaders and to stir up revolt along the respective borders of Iraq and Turkey.

Although England has mandates over Palestine and Iraq, and has stood as sponser for the idea of an Arab nation to include all the former Arab states of Turkey, this policy was one of expediency in order to divide the power of Islam and to secure actual military aid against Turkey during the great war. Due to the obvious fact also that it is quite impossible at the best to weld a strong Arab nation from the diverse sects and tribes, capable of acting as a barrier to the East, it seems highly probable that so far as England is concerned it will be to her obvious advantage to return to her old policy of friendship with Turkey, in order to buttress her Eastern Empire.

There are indications also that in the event of a satisfactory solution of the Mosul question Turkey would not be averse to such a rapprochement.

Russia, although a friend of necessity when the Tury was confronted by the Allies, remains ever a potential enemy. The Turks understand well that Soviet freindship is but an incident of the world-wide effort to impose the Soviet system on the earth by first breaking up the British Empire.

The Turks are not at all receptive to the doctrine of communism, opposed alike to their religion and to their strong nationalism.

Although the treaty of Moscow, Turkey with Russia, and the almost identical treaty of Kars, Turkey with Armenia, Azerbaijan, and Georgia contain words of friendship and mutual support, there is nothing binding either party to a military alliance.

Turkey resents the evident purpose of Russia to use her as a pawn in furtherance of the Soviet plans and realizes that it is about time to withdraw from the embrace of the bear. Turkish nationalist aspirations fit better with the British policy of holding what she has than with the threatening policy of Soviet Russia.

France.—As for France, the chief interest lies in the immense economic penetration of that country in Turkey. The bulk of all concessions, including that of the Berlin-Bagdad railway in Turkey, are in French hands, and 60 per cent of the pre-war debt is held by French nationals. This preponderance of French interests has resulted in thrusting France into the lists as the chief antagonist of the Turkish demand for abolition of economic capitulations. Although by the Turco-French agreement of October 20, 1921, the latter withdrew from Cilicia and the Turkish strip of country running east and helped Turkey with munitions against Greece, the Turkish favor acquired through these policies and by the first inclination of France to support Turkish claims has been alienated by the later desertion of France to the allied camp, when allied support became necessary for France to uphold her economic interests.

The possession of such vast interests by France is of itself a threat of future menace and an additional reason why Turkey may eventually bid for English friendship.

Italy.—Turkey is reported to have granted Italy important concessions in return for Italian support of Turkish claim to all territory inhabited by Turkish peoples.

Bulgaria–Albania.—Secret treaties have been reported at different times between Bulgaria and Turkey and between Turkey and Albania, providing for mutural support in case of Balkan wars, but there is no confirmation of these reports.

ASIATIC RAPPROCHEMENT.

Treaties between Russia and Turkey, Russia and Persia, Russia and Afghanistan, Turkey and Afghanistan portray clearly the intention to maintain the territorial integrity of the respective countries and to resist military or economic penetration by the western powers during the period following the Great War. In case of foreign aggression Turkey can count on the active sympathy and perhaps armed support of these countries.

LAUSANNE TREATY.

Although the Angora Assembly has rejected the Lausanne treaty as being contrary to the principles of the National Pact, the assembly has voted to authorize the government to continue the efforts for peace, and as a result the conference of Lausanne is to reconvene in an attempt to reconcile the remaining differences.

The salient provisions already practically agreed upon by Turks and Allies include:

First. Turkey in Europe to be bounded on the north by the Bulgarian frontier as laid down by the treaty of Neuilly, on the west by the left bank of the Maritza.

Opposite Adrianople, in order to obtain access to the main railway, a strip of territory on the right bank of the Maritza, including the bridge and the small branch line, will be ceded to Turkey between the river and Karagatch.

A zone of territory 30 kilometers wide on each side of the frontier of Turkey in Europe will be demilitarized. Turkey will renounce all rights and title over all the islands (except Imbros and Tenedos, which will be given her subject to the grant of local autonomy). The following islands will be demilitarized: Samothrace, Imbros, Tenedos, Lemnos, Mytilene, Chios, Samos, and Nikaria.

Second. Freedom of Straits for ships of commerce in time of peace and in time of war when Turkey is neutral. Free passage for

neutral ships of commerce when Turkey is belligerent, Turkey retaining the right to visit and search.

Right of passage of warships in time of peace, subject to restriction that force of any single power must not exceed that of the strongest fleet of any Black Sea power, except that in any case the allied powers may send into the Black Sea a force not exceeding three vessels of war, none of which shall exceed 10,000 tons. In time of war when Turkey is neutral, right of passage for unlimited naval forces of belligerents subject to the prohibition of acts of war within the waters of the Straits. When Turkey is a belligerent free passage for neutral ships of war under the same conditions as in time of peace. Turkey may, however, take steps to prevent the passage of enemy warships. Demilitarized zones to be created on both sides of the Dardanelles and Bosphorous within which Turkey shall be allowed no regular forces except at Constantinople and no fortifications.

No permanent gun or torpedo batteries capable of interfering with the passage of the Straits shall be erected on the European shore of the Marmora or on the Asiatic shore between the demilitarized zone and Darije.

In order to provide for the security of Constantinople, Turkey shall be allowed to maintain a garrison there of 12,000 men and additional garrison of 8,000 men in eastern Thrace. The Turkish fleet will be allowed to cruise and anchor in the waters of the Straits, and Turkey will be allowed to possess naval bases and arsenals.

CAPITULATIONS.

Turkey absolutely declines to recognize the special privileges accorded foreign nationals, on the ground that such provisions infringe upon the sovereign rights of an independent Turkey.

The Allies are willing to accede to the abrogations of the capitulations, provided that a satisfactory plan is adopted to assure justice to their nationals, claiming that inasmuch as the judicial system of the Turk is based on the Koran, which does not recognize non-Musselmans, it is necessary to devise a scheme which will insure justice to them, such as mixed courts, to include foreign jurists. It seems this issue will be satisfactorily adjusted by further negotiation.

DEBT APPORTIONMENT.

Both parties are agreed to an apportionment of its pre-war debt to be shared by those countries now including territory which was formerly a part of Turkey.

Turkey also demands a like apportionment of the debt contracted during the war. The Allies have not accepted this claim.

MOSUL.

Mosul remains a major issue in spite of the attempt of England to divorce it from the conference and refer it to the League of Nations. Turkey has proposed that the issue be settled within a year by separate negotiation, and, failing agreement, that the question be referred to the League of Nations. The granting of the Chester concession may cause the further consideration of this question at the conference.

EVACUATION.

Turkey also demands the evacuation of Turkish territory immediately upon the signing of peace, while Great Britain insists on a gradual withdrawal.

There is apt to be considerable friction on this point, as England is loth to withdraw from Gallipoli. Turkey demands also the island of Castelorizo, now held by Italy.

ECONOMIC.

The remaining major issue, that of economic and financial claims, is the real subject of dispute. This involves the question of the council for the administration of the public debt, the various inclusive concessions granted before the war, and the question of concession granted by the Sultan since March 16, 1918, as well as other minor issues.

The council of the public debt, composed of allied members, has in the past controlled certain monopolies and revenues amounting to about 27 per cent of all the State revenue, and has administered this in connection with the payment of interest and principal of the public debt.

Turkey insists on practical suppression of this council. Turkey also demands the modification in accordance with existing laws of such concessions made by the Ottoman Government before the war as are deemed to be so inclusive as to infringe upon the sovereign rights of the nation, claiming that to confirm these concessions spells economic slavery for Turkey. The abrogation of all concessions made by the Ottoman Government since March 16, 1918, is demanded. The Allies are endeavoring to have their differences settled as far as possible by negotiation between the concessionaries and Turkey prior to the meeting of the conference, at which time the question will be settled.

As France holds more than 60 per cent of the pre-war public debt, as well as the bulk of all economic concessions, the present struggle is really between France and Turkey.

Turkey has suggested that the economic issues be divorced from the present treaty and be made the subject of separate negotiations. The Allies reject this. In short, the political issues which were first the subject of controversy between England and Turkey are practically eliminated and the economic issue between France and Turkey now forms the chief subject of dispute.

MINORITIES.

There is some dispute as to the treatment of minorities. This will cause no great difficulty as the issue has been relegated to insignificance by the practical elimination of the alien races from Turkish territory.

POLITICAL SIGNIFICANCE OF THE CHESTER CONCESSION.

The ratification of the concession known as the Chester concession to the Ottoman-American Development Co. by the Angora Assembly further complicates the political situation. The exact terms of this concession are not known, but it is understood that the provisions are very far-reaching, and include concessions for the construction of railway systems extending from the Black Sea ports to the Mediterranean and to the Persian border, through Mosul, and carrying, mining, and oil concessions of vast extent. It is also said to include the building of model ports and cities, establishment of workmen schools, and introduction of modern agricultural machinery into Turkey. At any rate, the concession is evidently so inclusive as to cause the greatest concern to the Governments of England, France, and Russia.

It is reported that the French opposed the granting of this concession on the ground that it conflicts with concessions given to France in 1914 and that it conflicts with the spirit of the Turco-French treaty of 1921, which practically assured France preferential treatment for economic concessions.

England has also opposed these concessions chiefly on account of the bearing on the Mosul question. That part of the concession which relates to the Mosul area affects the territory in dispute between Iraq and Turkey.

Russia has also opposed this concession, claiming Russian interests had been promised the opportunity of developing certain portions of the area concerned.

This whole question will have a direct effect upon the further negotiations to be held at Lausanne.

POLITICAL FUTURE.

The elements of strength displayed by Turkey during the recent struggle for independence give promise that Turkey may develop into a strong and stable power. The new Government is most representative. It is based on that remarkable document "The Law of Fundamental Organization." The National Pact sets forth briefly and clearly the national aspirations. We find a new Turkey, absolutely different from the old Turkey of the Sultan. Instead of a weak government permeated by graft, the fertile field for foreign intrigue, we find a strong Government determined to divest itself of all foreign fetters and influences which tend to hamper the development of Turkey for the Turks. The Turkish leaders have shown themselves skillful and tenacious in the battle of wits during the conference at Lausanne. Their success has been marked and practically all the demands of the Turkish National Pact are substantially assured. The granting of the Chester concession tends to halt the further penetration of French interests already preponderant in Turkey. In short, if Turkey pursues the policy of political and economic development outlined by its leaders, it seems fairly certain to become a strong and perhaps enlightened power.

CHINA.

JAPANESE ACTIVITIES IN MANCHURIA AND SHANTUNG.

14 February, 1923.

Japanese Government helps development of Manchuria.—With further reference to the banking situation in the Japanese zone in Manchuria, the Japanese Ministry of Finance, through the deposit department, has agreed to advance the sum of 10,000,000 yen at a low rate of interest for Manchurian development. This will relieve the minor banks and otherwise improve the financial situation there. The money will be loaned on real estate security, being transferred to the Oriental Development Co. It is quite possible that a separate sum of 10,000,000 is being advanced to the Oriental Development Co. by the deposit department and the first 10,000,000 yen mentioned passed along for the aid of the minor banks. This would make 20,000,000 yen for Manchurian development.

The development of Dairen continues. The automatic telephone service is now in operation. Telegraphic business with Japan now justifies a direct wire for Dairen traffic, which has been put in operation since the first of the year.

Export of cattle from Manchuria.—The Manchuria & Mongolia Refrigeratory Co., closely affiliated with the Manchuria Industry Co., a Japanese subsidized concern, and under Sino-Japanese management, exported 1,000 head of cattle to Japan in the last three months of 1922. This business was not profitable, but was of considerable relief to the food situation in Japan and is being further encouraged, shipments so far this year being at the rate of 500 to 600 head monthly. Heavy exports of Shantung beef to Japan continue.

The Shantung Mining Co. (Ltd.).—The Shantung Mining Co. (Ltd.) has been organized to take over the properties that are to be operated by a Sino-Japanese company. The South Manchuria Railway Co. has taken 2,000 shares of stock in this company as one of the founders. Baron B. Ito, son of the late Prince Ito, and a coterie of Japanese capitalists are taking the remainder of the shares. The capital will be 5,000,000 yen, and the company will be under joint Sino-Japanese management, according to the terms of the agreement. The Chinese subscribers who are unable to pay will have the money advanced to them. This is the plan whereby the Chinese are to be but dummies, the Japanese being the actual owners of the stock. There will be 40,000 shares available for public subscription, payable at the end of February. The head office of the company will be in Tsingtao.

Either Gen. Chin Yun-peng, a former premier of China, or Gen. Chao Erh-hsun, formerly governor of Manchuria, will be the president of the company. The vice president and really the head of the Shantung Mining Co., will be J. Kadono, a director of Okura & Co. There will be two managing directors (still unchosen), one being Japanese and the other Chinese. In all matters the Japanese will dominate through the dummy stockholders and the election of Chinese directors and officers amenable to them.

Financial relief rendered banks.—The Japanese continue actively their development of Manchuria and receive encouragement either directly or indirectly through the Imperial Government. The proposed Manchuria bank, which was to finance chambers of commerce and individual Japanese, has been held in abeyance by the embarrassment of the Dairen Educational Bank. The Bank of Chosen, the South Manchuria Railway, and the Oriental Development Co., an organ of the Imperial Japanese Government, have come to the aid of the educational bank. This bank had deposits totaling 1,560,000 yen, of which 2,367 depositors were represented in sums of less than 300 yen, while there were 287 depositors who had more than that sum to their credit. The three aiding institutions mentioned, including a loan of 150,000 yen by the Kwantung government, are advancing 1,770,000 yen for the rehabilitation of the educational

bank. Part of the advance is an allotment from the Finance Ministry of Japan to the Bank of Chosen in the sum of 1,000,000 yen at 5 per cent.

The Japanese are nowise concerned over the action of the Chinese Parliament in declaring the treaty of 1915 invalid and have not the slightest intention of altering their position in Manchuria or to abate any of the special rights granted under that treaty. Two additional post offices have been opened this month in the railway zone, one at Sungshu, a station north of Wafangtien, and the other at Hsintaitzu, the first station north of Mukden.

Japanese adopt conciliatory attitude toward the Russians.—The Japanese in Manchuria are pursuing a very conciliatory policy toward the Russians. This is illustrated by the recent revival of activity by the Dairen branch of the Russo-Japanese Association with 80 members. It had been inactive since 1918. The revival was due to the approaching third Russo-Japanese parley, which it is believed may be held in Warsaw. The Japanese minister to Poland, Mr. Kawakami, is now in Tokyo and spent some days in Moscow on his way to Tokyo and was afforded every facility on his journey across Siberia. It is believed that much of the preliminary ground was laid before he even left Warsaw, where conversations are believed to have begun soon after the disruption of the Changchun conference last autumn.

New cotton mills at Liaoyang.—A new industrial development in Manchuria is the formation of the Manchuria Cotton Spinning Mills (Ltd.) at Liaoyang. Fifty per cent of the stock subscriptions were paid February 6. The amount of the authorized capital is not stated in available reports, but the South Manchuria Railway and the Fujii Cotton Spinning Mill each took 25,000 shares. The remainder of the capital will be equally divided between Japanese subscribers in Manchuria and in Japan.

Reverting to the Russo-Japanese Association in Dairen, M. P. Vaskevitch, local Russian consul in Dairen, is the chairman and Mr. Y. Aioi, chairman of the Dairen Chamber of Commerce, is secretary.

CHINA.

CONDITIONS IN MANCHURIA.

21 March, 1923.

The political situation in Manchuria as regards the Red and White Parties of Russia is very interesting. Secret agents from both sides are very active, and every effort is being made to enlist the sym-

pathies and support of both Japan and the Manchurian Governments.

The Chinese Eastern Railway.—The Chinese Eastern Railway is likely to become a serious bone of contention and will undoubtedly give rise to some very important political developments. It is rumored that the Red Party will make an effort in the month of May to take over the railway. They realize, however, that Japan is a serious obstacle, and an effort is now being made by Joffe (the Soviet representative in Japan) to line up the Japanese Government on the side of the Reds. While the Japanese prefer an imperial government in Russia, they realize that the Red Party holds the power and is likely to hold it for some time to come, and that unless they cooperate to some extent, they are likely to see British, Germans, and Americans get concessions which they would like to have for themselves. It is said on good authority that Joffe is offering the Japanese a quid pro quo in return for Japanese acquiescence in the plan of the Reds to take over the Chinese Eastern Railway, and it is said that the hold which the Japanese have on northern Saghalien will thereby be strengthened. It is probable that the concession which was given to the Sinclair Oil Co., was an indication to the Japanese of what is likely to happen if they continue to hold off.

Japan helps both the Whites and Reds.—Just as the Japanese aided both sides during the Anfu fight in China in 1920, they seem now to be helping both the Red and White Parties. It is said that certain White agents in Japan have collected substantial sums of money which they hope to use in a spring campaign. It is possible that the Japanese believe that there will be more in it for them if they can keep the White and Red Parties at loggerheads. When two dogs fight over a bone it is likely to go to a third!

Agents of the White Party are trying to organize the Cossack and other Russian soldiers and ex-soldiers in Manchuria in order to insure unity of action when the time comes. There has been a serious split in the White Party and the different factions do not work together with any degree of harmony. Marshal Chang Tso-lin has a Russian adviser, General Clerge, and he belongs to the White Party and is evidently in direct communication with his political colleagues. Every evidence shows that the White Party is organizing in Manchuria and indicates a disposition to exclude the Merkouloff brothers and certain other elements which are now regarded as undesirable. It is doubtful if the White movement will succeed. It appears that the chief beneficiaries of all these schemes are the officials higher up who collect the campaign funds. The Russian generals do not seem to have the shrewdness, organizing ability,

and driving force necessary to put through any large scheme successfully. They seem to have enlisted the support of several Montenegrian officers, including Captain Petrovich, who claims kinship with the reigning family of Montenegro. He went to Peking a few weeks ago and was having conferences there with some of his continental friends, but he did not seem to have much money with which to work.

Russian refugees.—Both the Japanese and Chinese are tired of supporting Russian refugees and are making every effort to repatriate them. It is said that the colony at Gensan is being gradually cleared out and that many of the refugees in Manchuria have been forced to return to Siberia. While the Reds have granted them amnesty, it is well known that many of the Whites who went back to Siberia were sent to distant places and were never seen or heard of again. The Reds have a carefully prepared black list and the record of every prominent White is carefully kept. Many false accusations have been made from motives of revenge, and a large number have, it is reliably reported, been taken into the forests and left there to starve. An American recently returned from Vladivostok investigated this matter with great thoroughness and says that the disinclination of the Whites to return to Siberia is easily understandable, as most of those who did go back have fared very badly. It is like the fox who was invited into the cave to visit the sick lion. After observing the footprints of those who preceded him he told the lion that he saw many footprints going in but none coming out.

While the Reds in Siberia claim that they are perfectly willing to promote business of all kinds, they actually make conditions very difficult. A large fire recently occurred in Siberia and when the foreign insurance company concerned wanted to investigate, they were told by the Red authorities that no foreigners would be allowed to do so. Consequently many insurance policies have been canceled, to the disadvantage of all concerned.

CHINA.

ESTABLISHMENT OF FISHERY COMPANY ON THE AMUR BY JAPANESE.

20 March, 1923.

A Japanese firm, Miyazaki-Gumi, has organized a fisheries company to start operations on a large scale on the Amur River under the protection of Russian troops and under an understanding recently reached with the Russian authorities, the details of which are lacking. The Chinese are expected to lodge a protest with the Japanese Gov-

ernment against the operations of a Japanese firm in waters jointly controlled by the Russian and Chinese Governments. The situation is aggravated because the Amur military committee has issued notice demanding that all Chinese intending to take up fisheries on the Amur shall pay to the Soviet the sum of 200 gold rubles annually, payable in large dollars. This is regarded as an excessive if not prohibitive tax, and Mr. Cheng, in charge of the fisheries office at Hulunbor, has entered renewed protests, and, failing to hear from the Soviet authorities, has appealed or is appealing to the Peking Government.

From Japanese sources it is learned that the Soviet intends to bar the gold and silver notes of the Bank of Chosen and the Yokohama Specie Bank from Vladivostok and the Maritime Province, although the present lack of Soviet ruble notes delays issue of the edict. The Japanese are apprehensive that when the expected supply is received from Moscow the branches of the two Japanese banks in Vladivostok will be ordered closed.

GERMANY.

CURRENT ESTIMATE OF THE MILITARY SITUATION.

13 April, 1923.

One hears constant rumors about military preparation and discussions of the possibilities of military action on the part of the Germans. There is, however, no reliable evidence that anything definite is being done. It is quite reasonable to assume that the staff of the Reichswehr may be thinking out and preparing plans in case military action should grow out of the situation. Regardless of the fact that they are not supposed to have a general staff and that no war instruction is supposed to be given, it must not be assumed that military men do not think along this line. They doubtless have in mind some general plan of action, and it would be only natural that they should study and develop the details of such a plan. While it is perfectly feasible for the German staff to prepare plans of operation in great detail, the question of their execution and ability to conduct and maintain war must be considered from two main points:

(*a*) Can the German Government at the present time raise a large field army?

(*b*) If it can succeed in obtaining the necessary men, can adequate munitions and supplies be provided?

With reference to (*a*), it is extremely doubtful if a general call to arms would meet with a very hearty response, in view of the fact that conscription laws have been abolished and the Socialistic influences are so pronounced that it is doubtful if the great mass of Germans, i. e. the laboring classes, would undertake to bear the burden of fighting another big war at this time. An attempt on the part of the Government to pass and enforce any new conscription laws would probably be met by internal resistance. In this connection, however, the fact must not be lost sight of that there are four or five new classes of young men who have come to military age since the signing of the armistice and who did not experience the hardships of the late war. These young men might respond to a general call for volunteers. The old classes who fought in the Great War would, however, have to be utilized.

With reference to (*b*) it is not considered impossible that a large army could be armed with small arms and that transportation would be forthcoming. The manufacture of cannon and heavier munitions on a large scale could probably not proceed very far before the French would occupy most of the factories that could produce this class of material. The development of new factories would require several months' time at least.

The undetermined factors are found both in the question of securing the necessary man power and of providing the necessary equipment and munitions. Intelligent Germans recognize these factors in the situation, and it is believed that they will suffer a great deal more than they have up to date before attempting to embroil the country in a general war in the immediate future. They cherish the idea of future success, both military and economic, and it may be predicted that the time will come, but not for some years, when a big war will be fought to determine the supremacy of these two neighboring races. At the present moment the French are supreme and most of the Germans know it.

GERMANY.

CHEMICAL WARFARE.

27 April, 1923.

An interview was arranged with the German naval officers in charge of chemical warfare matters at the admiralty. It was ascertained that the German naval artillery staff or ordnance division handles all matters concerning chemical warfare, but that no officers are assigned primarily to the study of chemical problems. When

such work arises it is handled, in addition to their other duties, by the officers already mentioned. No special chemical experts are assigned to the construction division of the German Navy, but since the armistice the activities of the navy have been so restricted that the problems arising could be handled by the small staff. During the latter part of the war one of the heads of department aboard ship was placed in charge of gas-defense matters. This officer was in most cases a first lieutenant.

There is no special chemical warfare board composed of naval and military officers and civilians. However, it was frankly pointed out that such a board was unnecessary, as the contract between the army and navy is very close and their activities are located for the most part in the same building. A close contact is maintained by both services with civilian scientists, particularly the Kaiser Wilhelm Institute. The chemical industry is most highly developed in Germany. The discussion developed the fact that the navy was behind the army in both gas defense and offense during the late war. This is not surprising when it is remembered that the German Navy was not represented in the high war council until 1916, two years after the gas was successfully used by the army. Its use had been foreseen, however, and instructions in gas defense had been undertaken in the German Navy even prior to the war. The gases feared at this time were the nitrous gases which would result from fire on board their own ships rather than from the enemy's fire.

Apparently the opinion still exists that the greatest danger arises from the effect of these nitrous gases and the regulations require the shutting down of all ventilating systems during action, except those pertaining to the fire and boiler rooms. This in itself is a very considerable safeguard against enemy gas. However, as the turrets were not under pressure nor were their guns equipped with blasts, the menace from their own powder was a real one and it is believed many deaths were caused from nitrous fumes and carbon monoxide in the German naval forces at the Dogger Bank action. Following this action, the German Navy was completely equipped with a gas mask which protected from both carbon monoxide and nitrous gases.

These masks were delivered to the fleet two days before the Battle of Jutland. The masks were excellent and were believed to have saved many hundreds of lives.

The ventilating systems were operated during all pauses in the action. For resuscitation, a special oxygen breathing apparatus was installed in all sick bays and was found to be very useful.

For the purpose of training gun crews in gas defense prior to and during the war, black powder was burned in the compartments, and it is believed this practice still exists.

The naval masks have been stored since the close of the war and a large supply is on hand. Each member of the naval forces at sea is equipped with a mask at the present time. It is expected to issue a second mask so that one may be available for exercising purposes and one for war use.

The tremendous possibilities of chemical offensive action appear to have been somewhat overlooked by the German Admiralty. It is true, of course, that Germany can expect no naval action of any consequence for some time, so that there is no great need at the present time for offensive preparations for her naval forces.

It was stated that no chemical shells were ever issued or used by the navy, as they believed the high explosive shell to be more effective and consequently it was not advisable to given any weight or space to chemicals in their shells.

The question of the protection of the personnel in the boiler and engine rooms was admittedly a difficult one, but it was believed that the present ventilating system provided a considerable safeguard against gas.

No arrangements for clearing ship of gas during or after action, other than the usual running of the ventilating system, appear to have been made.

Medical data concerning the effect of chemical agents on the personnel, and first-aid treatments in cases of persons overcome by gas, has been compiled, and it was stated that a copy of this compilation would be furnished to this office.

It is apparent that the technical staff of the German Navy is so burdened with routine matters that the limited number of officers allowed have not been able to devote much time to the study of chemical matters. This is not a serious situation, however, since the various department heads realize that the German industrial organization is fully capable of meeting any demands that may arise for investigation and research as well as for offense and protection in time of need.

THE NETHERLANDS.

DISCUSSION OF THE FOREIGN POLICY OF THE NETHERLANDS IN THE FAR EAST.

7 May, 1923.

The sentiment of the country, as indicated in extensive discussion in the press, seems to be strongly against any increase in the navy at this time. The following article from the Vaterland of May 4

is characteristic of the many arguments that are advanced against the adoption of the recommendations of the fleet commission:

Our fleet commission in its report that has just appeared draws its arguments for a strengthened fleet in the Dutch East Indies from the supposition that in the event of war in east Asia this country would become involved. Why this should be so is not quite clear. What does Holland want in east Asia? Do we fear an attack upon our Indies? Do we consider that we have strategic interests in east Asia? Do we dream of any military glory as in 1864, when we participated in the bombardment of Shimonoseki with the squadrons of England, France, and the United States? The Shimonoseki incident was the incentive to the economic struggle in east Asia of Japan against the west, in which Japan has been the victor.

Several of our historic writers have made it appear that the allied fleets of 1864, of which Holland also formed a part, were fighting against an unwilling feudal Japanese lord and not really against Japan. However, that is not the case. * * * At the present time Holland has only commercial interests in Japan and in east Asia. Yet Holland has no commercial attaché there, though it has a military attaché, and the newly appointed minister to Japan is Maj. Gen. J. C. Pabst, of the Indies Artillery, formerly military attaché to Japan and China. And, finally, in the report of the fleet commission the Government is urged to do everything in its power to secure the passage of the naval bill, which means an extension of the navy. The necessity for this is said to be based upon the far-reaching alteration in the balance of power in east Asia and on the assumption that if we have a modern fighting fleet in the Indies we shall be so valuable as allies for any belligerents in the East that others will hesitate to proceed to actions the consequence of which might drive this country into the arms of the opposing party.

What does the fleet commission mean? We hope that when the matter is discussed in the chamber or by the ministry of foreign affairs some information will be forthcoming on this point. There are three powers to be considered that might eventually, in case of war in east Asia, drive this country into the arms of one of the belligerents. These are England, America, and Japan. The war in east Asia would probably be one between Japan and America, with England as the most interested party. How does the fleet commission visualize a war between Japan and America? In order to achieve anything, America must convoy troops across the Pacific. It is true that the American Shipping Board has given America the services of a great number of auxiliary cruisers that can be used extremely well as transports. In his book "If Japan and America fight," General Sato calculates, upon reasonable assumptions, that America would have to have about 6,000,000 tons of shipping for the transport of 10 divisions, for the troops would have to be transported at one time and not gradually, as was the case in the Great War. In order for them to land, the Japanese fleet would have to be destroyed in its own waters, and then the 10 divisions would have to conquer the powerful Japanese Army on the rocky coasts of Japan, the latter being supported by strong defenses. For that purpose the American fleet accompanying the transports would have to cross the Pacific—4,500 sea miles—and then destroy the Japanese fleet.

What have we to fear from a Japanese-American war? That Japan will occupy our Indies and thus bring England in against her? This is not to be believed. The only thing that Japan might perhaps do would be to try to conquer the Philippines. Japan, however, would prefer not to do this and simply to maintain its cordon before east Siberia and China intact and to repel every attack that might venture too close. A look at the map shows that

Japan, owing to its practical possession of the island of Saghalien, of Japan itself, of the Riu-kiu Islands, and of Formosa, has drawn up a position before east Siberia and China that is so perfect and so strong that the combined fleets of England and America, so far from their bases, would be unable to do anything against the completely ready Japanese. In such a war Japan would be able to hold out indefinitely simply by maintaining its communications to China and Siberia, placing those countries under military rule, and in this manner providing itself with raw material and food.

Basil Hall Chamberlain, the author of that excellent work, "Things Japanese," long before the Russo-Japanese War prophesied that Japan would prove to be invincible in her own waters. His assertion was verified. Since the Russo-Japanese War Japan has not become weaker; she has become much stronger. The late war proved that Japan is too alive to her own interests to fight anywhere but in her own waters.

As the situation now appears, there is no danger of a military war between Japan and America. There is, however, an economic war which has been going on for a considerable time. Everything points to the fact that powers like America and England are desirous of weakening Japan economically in China and Siberia and in this manner frustrating her military power, for only in an economic war can these powers hope for success against Japan. Holland, however, is apparently thinking of her strategic interests, as indicated by the appointment of a major general as diplomatic representative. We are neglecting our commercial interests, because we are silently awaiting a moment when Japan will have lost her power in east Asia, a moment that will probably never come. In the meantime it should not be forgotten that this year the commercial treaty of 1912 between England and Japan lapses and that the new treaty will in all probability be less favorable for England. Owing to the most favored nation clause in our own treaty, this is a matter of the utmost importance for us.

We are certainly to be commended in our desire to make our Indies territory sufficiently prepared to be able at all times to maintain our neutrality. This, however, is not necessary on the grounds of any military danger to be feared in east Asia. Each of the powers that may eventually wage war there will have the greatest interest in maintaining the neutrality of the Dutch Indies for the simple purpose of not drawing in more opponents than are strictly necessary. In east Asia we have only commercial and educational interests, and these are being seriously injured by innuendos. Holland's paramount interest lies in the maintenance of the most friendly relations with all the States in east Asia and the strengthening of her commercial position. Owing to the envy of the great powers, there is much educational work to be done for this country in east Asia, to which too little attention is being given.

RUSSIA.

A DIGEST OF THE CONDITION OF THE RUSSIAN FLEET.

May 15, 1923.

IN THE BALTIC.

The active detachment consists of the following vessels:

One dreadnaught—*Marat* (ex *Petropavlovsk*)—launched in 1911, completed in 1914, and displacing 23,370 tons. The guns which

formerly equipped this vessel were worn and have been replaced by new ones from the *Gangut*, a new battleship which was never finished and which was partially ruined as a result of a fire.

Paris Commune, a sister ship to the *Marat*, and formerly named the *Sebastopol*, is in an inactive condition, with a bad leak on the starboard side below the third funnel. Her guns are worn out, the main dynamo has been destroyed, and the vessel has not moved since 1920.

There is an active division of five destroyers, namely: *Kapitan Isylmetiev*, *Garibaldi*, *Samson*, *Azard*, *Isyaslav*.

Three in reserve: *Pobiedital*, *Desna*, *Zabiaka*.

One mother ship for destroyers: *Borgo*.

There are supposed to be two active squadrons of submarines, composed of the following: *Tur*, *Volk*, *Pantera*, *Leopard*, *Yaguar*, *Rys*, *Kuguar*. Four submarine mother ships.

Of the vessels named, the *Yaguar* is reported to have a ruined battery, the *Volk* and the *Tur* to have batteries in such condition that they are unable to operate.

There are three divisions of trawlers, totaling 19 boats, with one mother ship.

In addition to the vessels already mentioned, there are four torpedo boats, two gunboats and three trawlers which compose the training detachment of the battle fleet, and they are all in active condition.

Excepting the injured battleship *Paris Commune*, all the vessels named above took part in active maneuvers in the fall of 1922, and are believed to be in serviceable condition.

In addition to the vessels of the active squadrons named above, there are in the Baltic the following ships either completely useless or in such condition from worn matériel or lack of personnel that their utility is practically nothing: Four battle cruisers partially completed, *Borodino*, *Ismail*, *Kinburn*, *Navarin;* 5 old battleships; 6 old cruisers; 38 destroyers; 5 submarines; 3 gunboats; 6 mine layers; 19 mine sweepers; 3 transports; 3 survey ships; 6 yachts; 6 icebreakers; 3 salvage ships; 7 tugs; 32 miscellaneous vessels (mother ships for submarines and destroyers, repair ships, floating barge, etc.).

The Baltic shipyards are in a state of complete neglect. The two largest yards in Cronstadt are not able to accomplish repairs, even on small units. The four large shipways in Petrograd are useless, and no shipyard in the Baltic is equipped to do more than repair small ships. The admiralty yard is completely out of commission. The yards which have been the least affected are those of Newski and Poutiloff.

In these waters the only Russian craft that are capable of active work are submarines *AG 23*, *AG 24*, *AG 25*, *AG 26*, and four destroyers, *Svirepi*, *Zavietni*, *Buistri*, and *Zante*.

There is a small number of miscellaneous patrol vessels, tugs, and submarine chasers, about 10 in number, which are used on the rivers leading into the Black Sea for the purpose of carrying officials, mail, etc.

In addition to the active ships in the Black Sea, there are the following in such poor condition of matériel that they are incapable of any present action and in most cases beyond repair: 6 old battleships, all with their machinery destroyed by explosions in 1919; 1 new battleship, *Demokratiya*, launched in 1916, displacing 27,300 tons, and whose building has been stopped for four years; 1 old cruiser, *Pamiat Merkuria*, launched in 1903, and lying at Novorossisk with her machinery destroyed (reported that the main engines of the *Oleg* or *Bogatyr* are being fitted into her); 4 light cruisers, 2 of which have been launched and 2 of which are still on the ways, but upon which no work has been done since about 1918; 6 destroyers, of which 3 are only partially built; 1 600-ton submarine, *Nerpa*, which is at present undergoing repairs; 13 miscellaneous gunboats and tugs; 35 (approximately) steam and motor driven patrol boats, submarine chasers, etc; 6 mine layers; 22 mine sweepers; 2 submarine mother ships; 6 survey ships.

Among the miscellaneous vessels are included several minesweepers of a speed of from 10 to 13 knots, which are armed with one 47-millimeter gun and one machine gun. They are equipped for laying four mines with anchors or seven floating mines. A special mine barge called the *Mina* has a speed ranging from 7 to 8 knots, and can transport 80 anchored mines and 200 floating ones.

At Sebastopol there are at present in good order all the wire nets and other equipment necessary for laying obstructions in the sea area of Sebastopol.

Among the 13 gunboats mentioned above are 6 large motor barges named *L. P. D.*, each displacing about 2,000 tons, with two 350-horsepower Diesel engines, a speed of 10 knots, and drawing 8 feet of water. It is estimated that if they are needed they can be armed at Nicolaieff and Sebastopol in about three weeks, with two 130-millimeter, one 75-millimeter and two 57-millimeter guns, and equipped with a radio plant. They may be used as gunboats, as troop transports, or as mine sweepers. They are equipped to carry one infantry battalion and full equipment, or 300 mines in the hold and 60 on deck.

There are also 6 river gunboats included in the 13 mentioned above, with a speed of 10 knots, displacing 2,000 tons, and each one mounts two 6-inch, two 57-millimeter guns. The Bolsheviks found them especially useful on the rivers during the civil war, and they are being kept in reserve but in good condition. The stores and equipment to prepare these boats for active service are kept at Sebastopol, Nicolaieff, Kertsh, and Mariouple.

The air service of the fleet is in very bad condition. There is supposed to be an air brigade consisting of four detachments, each one armed with from six to eight seaplanes. It has been determined that in Sebastopol there are six planes, in Odessa 4, in Novorossisk 2, and in Kertsh 2, but their condition is poor and no active detachment of seaplanes has been formed.

The main operating base of the Black Sea Fleet is at Sebastopol, and the main repair base at Nicolaieff. Auxiliary bases are at Novorossisk, Odessa, Kertsh, and Touapse (which has a workshop of the Touapse-Armavir Railroad).

IN THE CASPIAN SEA.

There are 13 small torpedo boats ranging from 200 to 580 tons, 4 small submarines of 150 tons, 4 gunboats of about 600 tons, and 12 motor launches of 325 tons. The actual condition of each of these vessels is unknown, but there is reason to believe that not more than 8 or 10 are in condition for active work, and that they are mainly employed on general police work in the Volga River.

IN THE WHITE SEA.

There is one old battleship, the *Chesma*, built in 1894 and displacing 10,960 tons. There are two torpedo boats of 350 tons each, built in 1905, two old submarines, about eight mine sweepers, two small yachts, and two or three icebreakers.

AT BIZERTA, TUNIS.

The considerable force of vessels which was evacuated from the Crimea with General Wrangell's defeated force has been sold and is in the process of being broken up in various Mediterranean ports.

RUSSIA.

RUSSIAN UMPIRES REPORT ON THE MANEUVERS OF THE RUSSIAN BALTIC FLEET IN OCTOBER, 1922.

The following information is supposed to have been taken from a copy of the report of the chief umpire at the naval maneuvers in the Gulf of Finland in the fall of 1922. This information agrees

in a general way with other information from a source believed reliable:

(1) Communication between ships was not satisfactory owing to shortage of cipher clerks. Communication by signals, semaphore, and night signaling was very poor owing to the deficient training of young sailors.

(2) Lack of organization in air defense.

(3) Submarine spotting from the shore and from the ships was poor.

(4) No liaison between the naval aviation and naval command.

(5) Condition of fortresses good, particularly as regards Fort Krasnoflotsky, both technically and in training of personnel.

(6) The searchlight barrier of Kronstady Fort was properly arranged. All movements of the fleet were carried out with one accord.

(7) The mobilization plan of Kronstady Fort, which prescribed that the port and ships should be up to war standard, was successfully complied with.

The following are the remarks of the umpires with regard to the actual carrying out of the maneuvers:

(1) Shortage of patrol ships prevented the prompt departure and deploying of the ships.

(2) Although the plans of the Reds allowed for the forcing of a gap at sea and provided measures for the support of an army on land and counteraction against an enemy "decente" in case such a descent be attempted, the Red command failed to respond to the necessary extent to information given that the enemy was making a descent.

(3) It is doubtful whether the placing of mines in the area where the chief fighting forces of the fleet would probably maneuver, thus adversely affecting the successful conduct of the battle, fulfilled its aim.

(4) Taking into consideration the strength of the enemy forces and the condition of the Krasnoflotsky Fort at the present time, and particularly bearing in mind the gunfire capability and artillery organization of the said fort, the attempt to force a gap through the advance position of the "blues" must be considered unsuccessful.

The fighting capabilities of the fort are good and respond fully to the extremely important position this fort occupies in guarding the approaches to Kronstadt.

The above are the main conclusions to be drawn from the maneuvers, a criticism of separate operations carried out will be given after they have been examined in the presence of the chiefs and participants in the maneuvers.

RUSSIA.

FATE OF THE WHITE RUSSIAN FLEET WHICH VACATED VLADIVOSTOK.

22 March, 1923.

The following information in regard to Admiral Starck's ships has recently come to hand. While it is impossible to check the statements in regard to arms, ammunition, and cargo carried, it is evident

from perusal of the list that the person who wrote it either had access to the correct records or possessed military knowledge and a very good imagination. I have investigated the question of the sales at Shanghai and found that the general belief of some who are usually well informed was that many stores were landed, and two people who saw my list said they hadn't a doubt it was true.

The firm said to have made the sales is L. V. Ling & Co., ships' agents, 8 French Bund. The members of the firm are Russian Jews. The man who actually handled the matter is said to be L. P. O. Driscol, a British subject.

RUSSIAN ADMIRAL STARCK'S FLOTILLA.

The fleet consisted of 26 ships, all of them carrying various cargo. The most important was the admiral's ship:

1. *Baikal.*—Arrived at Manila about January 30, 1923. Nine hundred registered tons; admiral's flagship.

On board of this ship were the admiral himself, his chief of staff, Captain Commander Fomin, and the entire staff of the fleet.

Cargo: All the instruments of the Vladivostok Naval Observatory; 8 very costly chronometers; big quantity of rifles and ammunition for them.

Armament: 4 Maidzuru guns, 4.7-inch caliber (three of these guns were taken at Vladivostok from the cruiser *Mandshour*); 1 very powerful naval searchlight; 1 radio outfit.

This ship with the whole armament and cargo was sold to Chinese in Shanghai.

2. *Batarea.*—At Manila, January 30, 1923. No important cargo on it; the armament consisted of 1 3-inch gun, 1902 model; 1 Maidzuro gun, 4.7-inch caliber; 1 searchlight; 1 radio outfit.

3. *Magnit.*—At Manila, January 30, 1923. This ship was loaded with a very big quantity of furs from Kamschatka, most of which were very expensive. Salt beef, three years' supply for the full naval crew of this ship (about 2,000 registered tons).

Armament: One Maidzuru gun, 4.7-inch caliber; 1 Hotchkiss gun, 37.36 millimeters; 1 3-inch gun; 1 searchlight; 2 Maxim guns; 1 radio outfit; big quantity of ammunition.

This ship was sold by Captain Commander Iliyn to the Chinese.

4. *Lieutenant Dedimov.*—Had no important cargo and no armament; only equipment was a radio outfit and one searchlight.

5. *Ouliss.*—At Manila, January 30, 1923. No cargo.

Armament: One 3-inch gun, 1 Hotchkiss 37.47-millimeter gun, 1 searchlight, 1 radio outfit.

6. *Patrocl.*—At Manila, January 30, 1923.

Armament: One 3-inch gun, 1 Hotchkiss 37.47-millimeter gun, 1 searchlight, 1 radio outfit.

7. *Diamid.*—At Manila, January 30, 1923. No cargo.

Armament, same as on *Patrocl.*

8. *Iliya Mourometz.*—At Manila, January 30, 1923.

Military cargo: (*a*) Great quantity of ammunition and military equipment; (*b*) mills bombs; (*c*) big quantity of quick-firing guns, various systems; (*d*) rifles.

Armament: Two Maidzuru guns, 4.7-inch caliber, 1 searchlight, 1 radio outfit.

9. *Paris First.*—At Manila, January 30, 1923. No cargo.

Equipment: One searchlight and 1 radio outfit.

10. *Paris Second (trawler).*—The only load known was a very large supply of trawls for sweeping out of mines. This ship is sold.

11. *Svir.*—At Manila, January 30, 1923. Big quantity of manufactured goods, chiefly woolen cloth.

Equipment: 1 searchlight, 1 radio outfit.

12. *Aiacs (trawler).*—Equipment, trawls. This ship is sold.

13. *Forwater.*—At Manila, January 30, 1923. No cargo. Equipment, 1 radio outfit, 1 searchlight.

14. *Strelok.*

Cargo: Very big quantity of opium; was overloaded. This ship is wrecked and lost in storm.

15. *Vzrivatel.*—At Manila, January 30, 1923.

Cargo: 2,000 rifles, 6 cases of gold from the Vladivostok treasury; 16 cases silver (Russian full weight silver roubles) from the Vladivostok treasury; 2 leather trunks with mortgage and other valuable paper from the Vladivostok government bank; grenades and bombs; shells; warm winter uniforms; 500 shells for 75 millimeter guns; 500 shells for 45 millimeter guns; 300 Burrel shot shells.

Armament: 1 mining apparatus; 2 quick-firing guns; other large guns were taken off in Vladivostok.

Equipment, 1 searchlight, 1 radio outfit.

All above-described cargo was sold, equally own armament, and was unloaded during the nights from January 2 to 3, brought over and loaded on a Chinese man-of-war. Out of the 2,000 rifles, remained on board ship only 500 rifles.

16. *Sioushan.*

Cargo: Very large quantity of very costly furs; was afraid to enter the Gensan harbor.

Equipment: 1 searchlight, 1 radio outfit.

17. *Strelok* (fast transport cutter).—Captain Commander Oushakoff, still in Shanghai on 1st of February; is trying to sell. The price offered is 60,000 taels; the price demanded is 150,000 taels. Captain commander's address is given: Ensign Street, No. 15, Shanghai.

The general conditions of the stay of the Russian ships at Shanghai were more or less scandalous. It was officially announced that no Russians would be permitted to be landed. This was afterwards modified by the statement that the members of a Russian boys' school could land. Officially no one landed but this school, some 350. The total personnel on board the ships, according to our consul general at Shanghai, was 1,662. The number reported to have arrived in the Philippines was 562. About 750 persons disappeared, therefore, during the stay at Shanghai. The streets fully bore out this figure. Russians very evidently in poor financial straits were frequently seen, and there was much complaint among the Europeans in regard to having to contribute to their support. It was well

known that the boys' school was put ashore without any funds or way of support except for the charity of Shanghai. Others who got ashore were apparently no better off.

As to cargo, the list shows what was supposed to be on board on sailing from Vladivostok. Reports from the commander in chief of the Asiatic Fleet were that the ships arrived in the Philippines without arms, ammunition, or cargo. It seems evident that these materials went ashore at Shanghai, the only port at which the ships stopped except Gensan, Korea. Further, an amount reported to be 75,000 taels was paid at Shanghai for repairs to vessels. In addition, coal and stores must have been taken on board for the trip south, to say nothing of the material necessary for maintenance in Shanghai for a month in midwinter; and, finally, the commanding officer of the *Barker* reports that the ships seemed to have plenty of silver on arrival in the Philippines. The assertions made as to the sale of ships are generally incorrect. Only three small tugs were disposed of at Shanghai, but the difficulty seems to have been the question of change of registry, so we seem to have these conditions:

1. These vessels left Vladivostok fairly well loaded with various sorts of stores.
2. To these they could have had scarcely a legal title.
3. They disposed of most of the material at Shanghai.
4. Large quantities of the material was of a contraband nature and not supposed to be imported.
5. They put ashore 350 boys without any proper means of support.
6. They permitted many others to get ashore also to be principally objects of charity.

RUSSIA.

JAPANESE ATTITUDE REGARDING THE SINCLAIR OIL LEASE IN SAGHALIEN.

14 February, 1923.

The Japanese, through the recommendations of the foreign and navy offices, are withholding recognition of the Sinclair oil lease in Saghalien and await action of the cabinet council. The matter is held up for fear any action taken may affect Japan's treaty rights and her acquired interests in Saghalien, owing to her geographical position. This has particular reference to the two ports proposed for the shipment of the oil product when available. It is understood Japan will approach the United States in a friendly way in this connection. Japan may take the stand that the Sinclair concession is invalid and might demand cancellation, particularly

by reason of the provision for two ports. This would explain the courting of A. A. Joffe, the Soviet representative, who, though presumably ill and in search of rest at a hot springs, remains at the Seiyoken Hotel in Tokyo, where he has many callers.

SOUTH AMERICA.

OBSERVATIONS UPON THE BRAZILIAN SUBMARINE PROGRAM.

19 APRIL, 1923.

The Jornal do Commercio, the official Government organ of Brazil, published to-day the following articles:

Chile.—Telegrams published by El Mercurio and La Nacion, of Santiago. With large titles the newspapers El Mercurio and La Nacion published the following telegrams furnished by the Associated and United Press. The telegrams of the Associated Press published by El Mercurio say:

"NEW YORK, 17.—The New York Times announces that negotiations are being realized between the Government of Brazil and the Submarine Boat Corporation, of this city, for the construction of submarines for a price of $10,000,000. The president of this corporation confirmed the existence of such negotiations, but added that they were not terminated. This contract is one of the largest that has been made for the construction of a submarine fleet since the European war."

"WASHINGTON, 17.—The notice that Brazil is negotiating for the construction of a submarine fleet has caused a sensation in Latin-American diplomatic circles in this city. In general the comments are unfavorable to Brazil, and some observers say that it will create a tendency to weaken the conference at Santiago. The members of the Brazilian embassy refuse to make any statement relative to the subject, saying they have no information in their possession, and that in matters of this kind the Government at Rio de Janeiro would act direct. In various circles it is stated that Brazil was a short time ago studying a plan of acquiring a submarine fleet. It is about a month since this information was divulged from an authoritative source, but later denied. Diplomats are of the opinion that Brazilian politics can now show signs of an armed peace in South America. They call the attention of the public also to the fact that just at this moment, when Brazil has its representatives at the conference of Santiago discussing the possibility of reducing armaments, or, at least for the possibilities of peace, the announcement of such a nature would terminate abruptly all discussion in this particular. They judge that such a course on Brazil's part would not in any form help the discussions and deliberations for conciliating the spirit of the assembly at Santiago. The United States Government will not express its opinion in view of the fact that the Government of Brazil has not officially informed Washington relative to its naval program. The viewpoint of Mr. Hughes is well known relative to disarmament, and thus his influence would be to impede further armament by Brazil." (Associated Press.)

The telegram of the United Press, published by Nacion, says:

"NEW YORK, 17.—It is known that an early termination of the negotiations of Brazil with the Submarine Boat Corporation for the construction of a sub-

marine fleet to the value of $10,000,000 is at hand. Mr. Henry R. Carse, president of the corporation, acknowledged that negotiations were under way, but also declared that it was possible they would be prolonged for several months. He judges that the early termination of a contract between Brazil and the Submarine Boat Corporation would be one of the largest realized in the world since the war for the construction of submarines."

The same paper published the following telegram from the United Press:

"WASHINGTON, 17.—The rumor is circulated among correspondents with insistence that Brazil has negotiated with a North American company for the construction of various naval units. On the other hand, the Brazilian embassy as well as the Navy Department deny having any knowledge of these negotiations. This lack of having knowledge on the subject can not be interpreted as a categorical denial of the existence of such negotiations. The public will remember that during the administration of President Epitacio Pessôa news was given out to the effect that negotiations for the purchase of submarines from Italy had been tabled, and it is considered possible that these negotiations have been passed now to the United States. It is well to remember also that an acquisition by Brazil of such magnitude, rumors having it at $10,000,000, would present some difficulties. It is believed that in the last budget for the Brazilian Navy a round sum was stipulated for the navy, without mentioning specifically for what the sum would be spent, and in this way the contemplated program for the submarines was covered. It is well to remember also that more than a year ago rumors circulated in New York of a similar nature, following which the Argentine Republic asked for a budget to cover submarine construction. It was noted also at that time that the naval authorities of the two countries were more or less in constant contact with constructors, asking for detailed plans on construction, etc., without which, in most cases of this sort, purchase could not be made."

The Nacion published from the same agency the following:

"WASHINGTON, 17.—The Brazilian embassy declares they have not received any official information relative to the announcement of negotiations of their Government for the acquisition of submarines in the United States, and that they could neither affirm or deny such notices. The members of the Navy Department equally abstained from comment. Mr. Henry Carse declared to a representative of the United Press that the negotiations of which he was informed were new, but he did not deny the existence of a contract.

Jornal do Commercio, under column "Various notices," same date:

"The United Press, whose information service we shall take care to suppress from to-day in our columns, and the Associated Press, which, although more accredited in the United States, is not behind the other when serving its clients in South America, filled up day before yesterday the journals of Santiago with a notice absolutely inexact and lying to the effect that the Government of Brazil is negotiating with the Submarine Boat Co. of New York for the construction of submarines at a price of $10,000,000. All of the dispatches carried the habitual "pepper and salt" of intrigues and occupied a good bit of column. The source of information was initiated by a "yellow journal" of New York and was evidently published first there to give it effect when transmitted to Chile, just at the moment when the conference was occupied with Article XII.

"It is readily seen what the intentions of these sowers of discard are, presenting on this delicate occasion the picture of Brazil, with a fever of armament, threatening to dominate the peace of South America.

"In our naval and military circles there will naturally be smiles at these inventions of the two agencies, and the Brazilian public finds an excellent oppor-

tunity to verify for itself the manner in which their country is treated on the outside by the furnishers of the customary false notices.

"We are authorized to deny categorically the dispatches referred to. It is totally untrue that the Government of Brazil has entered in negotiations with anybody for the purchase of submarines.

"It is not by a process of this kind that the fomenters of discord between nations can disturb the serenity, the crystal cleanness and firmness of our conduct in the conference at Santiago, where we carried the same vehement desire for conciliation that we always manifested in our relations with our brothers of America, without any exception, and from where we shall return with a tranquil conscience in the certainty of having fulfilled our duty to all."

COMMENTS OF AN OBSERVER ON THE NEWSPAPER ARTICLES QUOTED ABOVE.

On April 19 all Brazilian papers came out with the Santiago report of the announcements in the United States papers of Brazil's proposed purchase of new submarines. This information was received by the Rio de Janeiro newspapers some 36 hours before they published it, and they withheld it because of the Government's desire to suppress it temporarily, at least.

It is not believed that the Brazilian Government regard this announcement with as much embarrassment as would be expected. It would seem obvious that after an exposure of this sort and its flat denial the Government would drop the question of new construction for some time. From the best information obtainable, however, I consider that there is still a fair chance of the negotiations going through.

Within the past week the Electric Boat Co. has come to an agreement with Vickers, the Electric Boat people agreeing to give Vickers 20 per cent of their profits and Vickers in return agreeing to withdraw their tender and to assist the Electric Boat Co. in every way. This agreement was consummated about April 18. The Vickers representative here has withdrawn their tender and sailed for England yesterday.

As matters stand now there is every indication that Armstrongs, Yarrow, and the Electric Boat Co. will pool their interests and make every endeavor to obtain a combined contract for one scout cruiser, at least five destroyers, and five submarines. It is too soon at present to learn exactly how much resentment, if any, the Brazilian Government holds against the Electric Boat Co., due to the unfortunate action of Mr. Carse in confirming the rumor that negotiations were going on. If there is little or no resentment, the Electric Boat Co. will endeavor to obtain its contract independently, as heretofore, though working in close harmony with the British firms. If there is resentment, the Electric Boat Co. may endeavor to sell their submarines through Armstrong, the submarines, of course, to be built by the Electric Boat Co. in America. Bethlehem Steel Co. is ap-

parently not working with these other interests, though a suggestion was made last week to the Electric Boat Co. that, due to the probable resentment of the Brazilian Government, it might be advisable for Bethlehem Steel to negotiate the submarine contract for the Electric Boat people in order to keep their name out of it. At present writing, however, it is believed that if anyone obtains a contract for new construction it will be this Armstrong, Yarrow, and Electric Boat combination.

With the conclusion of the negotiations at Santiago the delegates will return here. Upon the report of Dr. de Mello Franco, head of the delegation, and Rear Admiral Souza e Silva, head of the naval delegation, will depend to a certain extent the final action of the Government in the matter of new construction. Should they return and convey the impression to the President that there is a possibility of war, it is believed that they might proceed with new construction. Dr. de Mello Franco is reputed to be an honest man and he will probably give his true estimate of the situation, but Souza e Silva may endeavor to frighten the administration into purchasing new construction.

After a careful study of the situation, it is not believed that the report published in New York on April 17 relative to Brazil's plans originated in Rio de Janeiro. There is a possibility that its release at that time might be connected with the withdrawal of Vickers on about the same date.

ARGENTINA.

PROPAGANDA AGAINST BRAZIL AND CHILE.

28 April, 1923.

The Jornal do Commercio, of Rio de Janeiro, in its edition of April 28, prints the following from Buenos Aires:

BUENOS AIRES, 27.—La Prensa, in an editorial entitled "The continental sanction of armed peace," says:

"We consider the debate terminated relative to clause 12 in the Santiago conference, because the last Chilean proposal complicates the subject, making a reasonable solution impossible.

"The conference has caused since its inception great surprise to Argentina, not only because of the arrogant attitude assumed by Brazil, but by the revelations brought out relative to subterranean diplomacy, conforming to the terms used yesterday by the Brazilian chancellary in an apology destined to convert the Pan American Conference in a reunion of diplomats who use second-hand methods secretly, condemned by President Wilson with the applause of humanity, but which now finds an echo in the stingy people of culture of Brazil.

"La Prensa, in spite of the emphatic denial of the Brazilian chancellary, has the temerity to affirm that Brazil has already realized all the acquisitions

necessary for its land forces and maintains a vast mobilization of army and is now occupied in completing its naval forces. In this respect it says that Brazil is negotiating now, following the full affirmation of the United Press, for the purchase of a fleet of submarines and other lesser elements for a great efficiency. If Brazil has not purchased these powerful elements for her Navy, she has the subject under study, the delay being ascribed to the arrival of the American naval mission and the necessity to hear their technical advice in this respect. Such ratification, therefore, says La Prensa, is a new diplomatic simulation. What Brazil must declare is that she will never buy submarines; but she does not say this, and never will say this. On the other hand, Chile, at the same time that she accentuated her interest in disarmament, was disembarking in Valparaiso important artillery material, in the face of the proper conference, and on which there should have been ironical opinions.

"Brazil has revealed that there exists between her and Chile an agreement to march together, revising a plan of South American equilibrium, and Argentina in this way is confronted with the situation of facing the two powers, who sustain their argument that there does not exist armed peace at the conference and pretend to make little of the sincere words of Argentina expressed by Argentina's delegates.

"The conference, in that which respects the question of armaments, says La Prensa, was substituted finally by a reunion of the representatives of the 'A. B. C.' (Argentina, Brazil, Chile) precisely as Brazil wanted, and which Argentina refused by public opinion (Argentinian); thus the Argentine delegates fell into the trap prepared, and the conference at Santiago transformed itself into a continental disgrace that places in view a sick and anti-American state of things existing in South America. These facts, however, concludes La Prensa, were of great advantage for Argentina, for it illuminates the course that she must follow from now on for her safety."

ARGENTINA.

FOREIGN POLICIES AND REGULATIONS.

6 April, 1923.

Internal affairs in Argentina the past few years have so outweighed international ones that her foreign policy has been rather indefinite and obscure. She has been particularly free from the heritages of colonial boundary disputes, which have predisposed the other South American States to dissension and war. However, she has become indirectly drawn into the political discussions resulting from the alignment and grouping of other countries and factors, precipitated and continued by the long drawn out "Question of the Pacific" controversy involving Peru, Chile, and Bolivia. Argentina is disposed to be suspicious of her immediate neighbors, who are formidable rivals.

The dominating idea for many years, especially during the World War, was antagonism to the influence of the United States, fostered

by a pro-German Government and an indifferent neutrality. After the war, however, she was quick to realize the disadvantage gained by this policy and the advantage gained by Brazil and Peru in casting their lot with the Allies.

As demonstrated by the Argentine delegation's attitude in the first assembly of the League of Nations, Argentina demanded compulsory arbitration except on questions of interior policy; also, Argentina required that all members of the council of the League of Nations should be elected by assembly, thus establishing the democratic principle in international affairs. Argentina also insisted on the right of all nations to become members of the League of Nations upon application only.

When Argentina's amendments were not accepted, she withdrew from the assembly. What the real object was in doing so has never been ascertained, whether due to Germanophile sentiment, or to a desire to place Argentina in a prominent position and act differently from Brazil.

Summing up, it may be stated briefly that Argentina's general aims are preponderance in South American affairs, and important policies or doctrines are fashioned toward this end; however, there is no suspicion of a policy of aggression. She desires to be the leader and mediator in South America, and resents any attempt by an outside power to take a hand in the arbitration of disputes.

RELATIONS TO OTHER IMPORTANT POWERS, ALLIANCES, OR ENTENTES.

There are no alliances or ententes, with the exception of the so-called A. B. C. alliance (Argentina, Brazil, and Chile), which was signed but never ratified by Argentina.

Argentina recently (December, 1922) refused Brazil's invitation for a conference of the A. B. C. countries to discuss the question of armaments, as a preliminary to the Pan American Conference which opened in Chile March 25, 1923. She stated, through her foreign minister, that her principle of continental solidarity and the fact the smaller nations were not included, obliged her to refuse, thus illustrating her policy of international independence.

Argentina's relations with other countries may be briefly summed up as follows:

Chile.—Argentina and Chile were more or less associated in the past by a common antagonism to Brazil and a policy of neutrality and pro-Germanism during the war. However, this Argentine-Chilean rapport no longer exists and Argentina's sympathy has gradually drifted away from Chile toward Peru and Bolivia. Argentina feels particularly antagonistic toward Chile at present for bringing up the question of the limitation of armaments, which

subject Chile proposed for inclusion in the agenda of the Pan American Conference which opened March 25, 1923, in Santiago. Argentine politicians, however, have been very astute and have negotiated a treaty with Chile for the construction of two new trans-Andean railways between the two countries and have gained material advantages for Argentina.

Brazil.—Argentina and Brazil are not in accord and regard each other with distrust and jealousy, as both aspire to be leader in South American affairs. Both countries desire to extend their influence in Uruguay and Paraguay, although neither one seems inclined to press this matter to the point of a serious quarrel. The refusal of Argentina to accept Brazil's invitation to a preliminary A. B. C. conference for a discussion of armaments, coupled with the fact that Brazil had contracted for and accepted the services of a United States naval mission, has caused a storm of protest in the Argentine press against both Brazil and the United States.

Peru and Bolivia.—Argentina seems to favor Peru and Bolivia of late and to desire closer commercial relations with these countries and is endeavoring to strengthen these relations by political friendship. The Peruvian centennial celebration in 1920 was made the occasion of a great show of friendship with the Peruvians, and gifts of a substantial nature were made by Argentina. It is believed Argentina would rather see the port of Arica in possession of either Peru or Bolivia than Chile, for here is the natural outlet for northern Argentina.

Argentina has no particular affiliation with or policy toward the rest of South America except that of friendliness.

Germany.—Argentina was strongly pro-German during the World War, and while she later realized the mistake of being on the wrong side, the Germans in Argentina have not suffered since and have had no difficulties placed in their way in an effort to regain their prestige.

Great Britain.—Relations between Argentina and Great Britain are entirely cordial, and there are no political questions of importance between them, with the possible exception of a slight degree of resentment against Great Britain for the ownership of the Falkland Islands and for falling off of trade since the war.

United States.—While the attitude of the Government toward the United States is friendly, public opinion is very unfavorable, particularly since the sending of a naval mission by the United States to Brazil. The present serious exchange situation is blamed on American banking circles. Argentina's diplomatic representatives throughout Latin America, as a rule, are anti-American in sentiment. This was the case in Mexico and Central America particularly, and Argentina watches very closely all United States policies and rela-

tions with the other Latin countries. She is resentful of United States mediation in South American affairs, wishing to be the leader herself.

GENERAL INTERNATIONAL SITUATION.

Argentina has no serious international political disputes to settle, as she has been particularly careful to keep clear of entangling alliances. Her most serious international problems are of an economic and financial nature, resulting from her loss of world markets and from the generally disturbed economic and financial conditions left by the war.

This situation is being taken hold of by the new administration in a vigorous manner.

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OFFICE OF NAVAL INTELLIGENCE.
NAVY DEPARTMENT.
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DISTRIBUTION:
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FOR CONVENIENCE IN ROUTING.

Officer.	Initials.	Date received.	Date forwarded.
Captain			
Executive Officer			
First Lieutenant			
Navigation Officer			
Gunnery Officer			
Communication Officer			
Engineer Officer			
Medical Officer			
Supply Officer			
First Division Officer			
Second Division Officer			
Third Division Officer			
Fourth Division Officer			
Fifth Division Officer			
Marine Officer			

The material for the Bulletin is largely derived from service sources and its interest and value are correspondingly dependent upon the number and character of the reports received by the Office of Naval Intelligence from our own officers. In this connection the observations of officers afloat are of great value, particularly if the reports rendered are drawn up in accordance with existing intelligence instructions.

While political and economic information is undoubtedly of much use, the collection of military information should come first in the intelligence work of cruising ships.

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GREAT BRITAIN.

AIRPLANE FLIGHT AND TEST FIELD OF MESSRS. ARMSTRONG SIDDELEY, COVENTRY.

May, 1923.

This plant is engaged in manufacturing a limited number of airplanes for the Air Ministry and also in the manufacture of the 14-cylinder 350-horsepower radial air-cooled Jaguar engine. It is further engaged in the development of a 14-cylinder 700 horsepower radial air-cooled engine called the Leopard.

The manufacture of two so-called Awana twin-engine troop-transport type airplanes has just been completed and these planes were seen in the test hangar. They are the usual tractor type, and the only marked difference from the normal design is in the very large fuselage, the excellent stream lining of engine housings, and the fact that all fuel is carried in two gravity tanks located just beneath the upper wing. The span of the plane is 105 feet. The engines are Jaguar. Fully loaded it weighs 18,000 pounds, which is quite obviously too heavy to expect any performance. The officials of the company frankly admitted this, but stated they were allowed no option in the matter. There is room in the fuselage for 25 men fully equipped for field service in addition to the crew of pilot and mechanic. The wings of the plane are fitted for folding back. Upon being questioned as to the effect of all fuel being carried in such a high location, it was stated that this did give the plane a tendency to nose over when running on the ground and that this arrangement was only made because of the desire of the Air Ministry to have the entire fuselage space for troop carrying. The excellent stream lining of the engine housings was accomplished by combining the radiating surface in one unit which was placed underneath the fuselage just forward of the leading edge and so arranged with hinges at the top and an operating arm at the bottom that the angle of the radiator with regard to the air stream could be varied at will by the pilot, depending upon the air temperature. When drawn fully up the radiator fitted into the fuselage form. One side of the radiator was used as a return pipe for the circulating water, thus enabling both water connections to be placed at the center of rotation. Flexible

couplings consisting of approximately 12-inch lengths of rubber hose spirally wound with cord were used to connect the radiator with the circulating water system.

The plant was actively engaged in the construction of Siskin single-seater scouts equipped with the Jaguar engine. These planes are normal in appearance except that a very short lower wing is being used. Their principal interest is in the fact that the fuselage and wings are entirely of metal construction, and this construction is of an experimental type. Absolutely no welding is used. The longerons are of circular seamless drawn tubing and all fittings for cross members, vertical members, diagonals and wires are made of metal clips riveted to the tubing. The spars of the lower wings are also of seamless drawn tubing, as are also all top and bottom parts of ribs. The spars of the upper wing are built up in rectangular form of four corrugated sheets of carbon-steel plate. This spar construction is said to be absolutely new. The corrugations are arcs of circles, thus enabling circular reinforcing tubes to be inserted when necessary in the completed spar for spacers, strengthening at point of attachment of struts, fittings, hinges, etc. The four sides of the spar are so formed as to be closely fitted at the edges and are riveted together with very small rivets spaced about 1 inch apart. The ribs are built to slip over the end of the spar and are held in position by spring clips. The leading edge tube is attached to the ribs by means of riveted metal clips.

Taken as a whole, the method of construction seemed to be very good, but undoubtedly expensive on account of the tremendous amount of handwork involved. All metal parts after completion were given two dips in an enamel bath, and I was told that it was planned to build vats sufficiently large to dip the completed fuselage and the completed wings rather than the various parts. I was further told that it was found that the first dipping did not add any weight, as the amount of grease, etc., taken off equaled the amount of enamel taken on. They stated that the second dipping added only about 3 pounds per wing section. Very little could be learned of the performance of the Siskin planes other than they had a speed of about 145 miles an hour at ground level and 135 miles an hour at 10,000 feet.

The Leopard engine now under construction is merely an enlarged Jaguar engine. It has 14 cylinders, arranged as in the Jaguar, and the cylinders are of 6-inch bore and $7\frac{1}{2}$-inch stroke. I was informed that the preliminary single cylinder test gave a horsepower of 48 per cylinder and that it was expected to obtain 52 horsepower per cylinder in the completed engine. The over-all diameter of the completed engine will be 63 inches, which the designer did not consider

excessive, as the engine was intended for single engine planes and would be geared down to use a very large propeller, thus to a large extent offsetting the interference of the engine bulk in the slip stream. It was stated that the first engine would be ready for preliminary inspection in about 3 months and it was hoped that a limited number would be in service in from 12 to 18 months.

BRITISH DOMINIONS.

ESTIMATE OF POLITICAL-MILITARY SITUATION.

May–June, 1923.

CANADA.

ESTIMATE OF THE POLITICAL-MILITARY SITUATION—GOVERNMENTAL ORGANIZATION—CANADA AND THE BRITISH EMPIRE.

Only a brief discussion of the organization of the Canadian Government will be given so far as it affects the power and the ability of the Government to declare and carry on war.

Unlike Great Britain, Canada has a written constitution, the British North American act of 1867. This act has been modified in many particulars, however, and several of its provisions, such as those providing for the review of Canadian legislation by the British Colonial Office, are entirely in abeyance. Any attempt, however, to radically change or abolish this act would result in intense opposition by the French Canadians, who would be afraid of losing the rights and prerogatives which they enjoy under it.

As is the case with the Government of Great Britain, practically all executive power in Canada is in the hands of the premier and cabinet. Although appointed by the Governor General, who is the representative of the King of England, the premier is always the leader of the majority party in the Canadian House of Commons, and the members of the cabinet must be members of the House of Commons elected in the districts where they live. Thus the Government is much more representative than in Great Britain, where members need not and often are not residents of the districts that they represent.

As is also the case in the British Government, the executive power reacts immediately to the political situation, as an adverse vote in the House of Commons almost always means the resignation of the cabinet and an immediate change in the personnel, and to a less extent the policies, of the Government. As the members of the cabinet are all members and usually leaders of the House of Commons, the executive branch of the Government has considerable

actual control over the legislative branch, making for efficiency in case of emergency.

Furthermore, the Canadian Government is highly centralized—very much more so than in the case of the United States. All powers not actually delegated to the Provinces remain in the hands of the central Government, *including the control of the militia.* Each Province has a lieutenant governor, appointed nominally by the Governor General at Ottawa, but in reality by the central cabinet; although each Province has a legislature of its own, the power of these legislatures is limited and their enactments are subject to review by the Dominion Government.

In Canada, as in all the British dominions, there is a strong trend toward the policy that the decision as to whether or not the dominions of the British Empire shall take part in a British war rests with the parliaments of the different dominions. This was well brought out when Great Britain at the time of the Near East crisis in September, 1922, asked the dominions whether they wished to associate themselves with the British policy of armed opposition to the Turks and in particular whether they wished to send contingents. The Canadian reply was that further information was necessary before Canada could obligate herself to go to war and that information was desired as to whether the situation was serious enough to call together the Canadian Parliament.

It is unquestionably the attitude in Canada at the present time that *except in case of invasion by hostile forces* the Canadian Parliament must decide whether or not Canada is at war and whether or not her forces shall be used. In a speech made by the Canadian prime minister on February 19, 1923, it was emphasized that Canada's direct and immediate interests should determine whether or not the Dominion would participate in any given war. Extracts from this speech bearing directly on the situation are as follows:

> * * * I hold that under our system of responsible self-government Parliament alone should determine, except in case of threatened or actual invasion, whether or not the country shall participate in wars in which other nations or other parts of the British Empire may become involved. * * * So far as this Dominion is concerned, short of invasion, Parliament will have the final word as to our participation in war. * * *

It will be seen from the above that the organization of the Canadian Government is well suited to carry on war and especially for effective action in times of emergency, as all forces are under control of the Central Government, and the Cabinet can not only make important decisions on its own behalf but has considerable direct control over Parliament. It seems certain that in future the Canadian Parliament will always be called upon to decide whether or not

Canada shall take part in any given war unless the country is threatened by invasion.

No discussion of the organization of the Canadian Government can be complete without reference to the position of the Dominion as part of the British Empire. As in the case of deciding whether or not the country shall go to war, Canada, perhaps more than any of the other British dominions, is assuming a more and more independent status, especially as regards her foreign relations in general and those with the United States in particular. In the case of internal affairs there is no influence of the British Government whatever; in the case of foreign affairs involving Canada alone there is more and more disposition on the part of the latter to arrange these matters directly and not through the British cabinet or British representatives abroad. As far back as 1921 a vote was obtained in the Canadian Parliament providing for the maintenance of a Canadian representative at Washington and although Great Britain has apparently successfully blocked this step so far an appropriation for this purpose has been made each year (in the 1923–24 estimates there is a sum of $60,000 included for the purpose of "representation in Washington"); in 1922 Premier King came to Washington to negotiate direct with the United States concerning proposed modification of the Rush-Bagot Treaty which covers the maintenance of naval forces by Canada and Great Britain on the Great Lakes, and in March, 1923, a treaty regarding halibut fishing in the Pacific was signed by Mr. Hughes and by the Canadian Minister of Marine and Fisheries without reference to the British Ambassador at Washington.

STABILITY OF GOVERNMENT.

There is nothing likely to disturb the stability of the Government; there are practically no radical activities at the present time, and the two most dangerous groups, the Communist Party and the Canadian National Union of Ex-Service Men, are inactive. Troops were called out in August, 1922, for the preservation of order in a strike of the United Mine Workers in the Nova Scotian coal fields.

The French Canadian question, discussed further on, affects the political situation more than it does the general stability of the Government, although the French Canadians gave little help to the Government during the South African and the World Wars. They were opposed to conscription during the World War and comparatively few volunteered for service.

The French Canadians might be in favor of Quebec's seceding from Canada, but they are thoroughly loyal to Great Britain and

would be opposed to Canada's seceding from Great Britain, considering that their status, guaranteed in some manner as it is by Great Britain, would probably not be so favorable in case of an independent Canada. The French Canadians are strongly opposed to the annexation of Canada to the United States.

INTERNAL POLITICAL SITUATION.

Up to the close of the World War there were two major political parties—the Liberals and the Conservatives. In 1917 the former were decisively beaten in their stand against conscription and a Conservative government was elected which continued, first under Sir Robert Borden and later under Mr. Meighen, until it in turn was defeated in 1921. At that time the present government composed entirely of Liberals with Mr. Mackenzie King as premier, came into office. Barring a political defeat or an adverse general election this government will stay in power until 1926.

Since the war a third party has come into existence—i. e., the Progressive or Farmers' Party. The political composition of the House of Commons is now as follows:

Liberals	118
Progressives	64
Conservatives	50
Labor	2

The stronghold of the Liberal Party is the Province of Quebec, 70 per cent of whose population are French Canadians. These people, strongly under the influence of the Catholic Church and most of them speaking only French, form a political bloc of great importance. The Liberal government is accused by its opponents of stripping the Canadian defense forces to the bone and of neglecting the devolepment of the western Provinces. The principal issue in the 1921 election was the tariff, and as the Liberals are against high protection no tariff retaliation is likely against the United States so long as they stay in power.

The Progressive Party is centered almost entirely in the prairie provinces and represents the interests of the farmers. It favors a low tariff, and at the time of the Near East crisis last fall supported the government's policy in refusing to send Canadian troops to assist Great Britain. In general its policies are more opposed to the Conservatives than to the Liberals.

The Conservatives were, as stated above, badly defeated in 1921 on the tariff issue. Other than this they have no special policies of importance other than general opposition to the Liberal government.

POPULATION AND SOCIAL CONDITIONS.

The population of Canada was, according to the 1921 census, about 9,000,000, divided as follows:

Nova Scotia	523, 837
New Brunswick	387, 839
Prince Edward Island	88, 615
Quebec	2, 349, 067
Ontario	2, 929, 054
Manitoba	613, 008
Saskatchewan	761, 390
Alberta	581, 995
British Columbia	523, 363
Yukon	4, 162
Northwest Territories	6, 684
Canadian Navy	485
Total	[1] 8, 769, 499

As stated above, the questions of language and religion are extremely important, due to the French Canadians and their control of the Liberal Party. Out of the total Canadian population of 9,000,000, about 2,500,000 are French Canadians, of whom over 2,000,000 live in the Province of Quebec. They form practically an alien bloc sharing in neither the aspirations nor the social customs of the rest of the country. They are, as has already been pointed out, more loyal to Great Britain than to Canada, and are as a rule hostile to and suspicious of the United States.

RELATIONS WITH UNITED STATES.

The relations of Canada with the United States are in general extremely harmonious and there are close economic bonds between the two countries. However, largely for historical reasons, both the French Canadians and the descendants of the original white colonists in Canada are opposed to the United States and are in general suspicious of any attempt toward too close relations of any kind as possibly leading toward annexation. The settlement of the numerous border questions and other matters constantly arising between the two countries is facilitated by an International Joint Commission created in 1912. This commission consists of six American and six Canadian representatives, meets on both Canadian and United States territory as occasion offers, and will continue until terminated by either party on one year's notice.

[1] 1911 figures, 7,206,643.

Among the principal issues in Canadian-American relations are the following:

(1) Modification of the Rush-Bagot treaty.
(2) Reciprocity.
(3) Prohibition.
(4) Great Lakes-St. Lawrence waterways.
(5) Fisheries.

Negotiations have been begun by Canada for an agreement to take the place of the Rush-Bagot treaty, which limits the armed forces that may be kept on the Great Lakes by Canada and the United States.

Steps are being taken in Canada to establish partial tariff reciprocity with the United States; a reciprocity agreement was negotiated in 1911 and was ratified by the United States but not by Canada. It remained on the statute books of the United States until 1922, when it was specifically repealed by the tariff act. The principal reason for its rejection by Canada was the fear that it was in some way a step toward annexation.

Prohibition is certain to be the cause of friction between the two countries, and Canada has already protested against the decision that Shipping Board vessels sold to other countries must not be used in any way to violate the provisions of the prohibition law.

In the Canadian House of Commons on February 12, 1923, Premier King stated that Canada is still considering whether or not she wishes to enter into an agreement with the United States looking toward the development of a Great Lakes-St. Lawrence deep-water system.

The fisheries question, principally the rights of Canadian and American fishing vessels to fish in each other's territorial waters, furnishes a constant if slight source of irriation in relations between the two countries. A recent incident was the reported firing on a Seattle fishing schooner alleged to be fishing in prohibited waters by a Canadian patrol boat.

General conclusions.

There is, in general, nothing in the political situation in Canada that would hinder the Government's efforts in a war. As in the case of Great Britain, the Government is well organized to carry on war and to act in an emergency, and there are no internal questions likely to affect the stability of the Government.

The present Liberal government in Canada has a rather uncertain attitude toward closer trade relations with the United States. In spite of the probable economic advantages to Canada of reciprocity

and of development of the St. Lawrence-Great Lakes waterways, the assent of Canada to these measures is apparently withheld on account of the fear that too close relations with the United States may in some way lead to annexation. So long as the Liberal Party is in power there appears to be no reason to fear any retaliatory measures by Canada against recent tariff enactments of the United States, which have considerably reduced Canadian exports to this country.

AUSTRALIA.

MILITARY SYSTEM AND POLICY.

The military system is based on compulsory war service and peace training. Owing to reduced annual appropriations, the permanent forces have been reduced, the citizen forces limited to about 25 per cent of war establishment, and annual training almost abandoned. The coast defenses are being strengthened and over 20 per cent of the annual military appropriations is being spent on the erection and maintenance of munitions factories. The active air force has been limited to one squadron and the naval forces in commission have been greatly reduced. Australia is at present making no contribution to imperial defense, although this is to be one of the principal questions discussed at the next imperial conference, which it is hoped to hold this summer.

ORGANIZATION AND STRENGTH.

The military, naval, and air forces are combined under a department of defense; there is a council of defense consisting of the premier, the minister of defense, the treasurer of the commonwealth, three military and three naval members.

The defense forces consist of—

(*a*) Permanent force;
(*b*) Citizen force (including rifle clubs);
(*c*) Army reserve;
(*d*) Cadets.

The permanent force is largely a training cadre; in addition to headquarters and instructional staffs there are 3 field artillery batteries, 10 garrison artillery batteries (manning the coast defenses), and detachments of other arms.

The citizen forces are divided into active and reserve forces; the former comprises those enlisting voluntarily or undergoing compulsory training, while the latter consists of the remainder of the citizens up to 60 years of age who, according to the defense act, shall

in time of war be liable for service. Rifle clubs are also included in the citizen reserve forces.

The principal units of the active citizen force are—

2 cavalry divisions.
5 infantry divisions.
3 mixed brigades.
12 garrison artillery batteries.
8 fortress engineer companies.

The cavalry divisions consist of three brigades of three regiments of light horse each. The light horse is the corps d'élite of the Australian defense forces, and is kept up by voluntary enlistment. Divisional troops include one field artillery brigade (three batteries and ammunition column), one engineer field squadron, two signal squadrons, a divisional train, four field ambulances, veterinary and provost troops.

The infantry divisions consist of three brigades of four battalions each; divisional troops include three field artillery brigades (four batteries each), a divisional ammunition column, and other divisional troops approximately as in the case of the cavalry divisions.

These cavalry and infantry divisions are probably only partly organized and units are at about quarter strength. The cavalry divisions probably do not exceed 2,000 officers and men each and the infantry divisions not over 2,500.

The garrison artillery batteries and the fortress engineer companies act with permanent units in manning the coast defenses.

The other two principal branches of the defense forces are the cadets (see under "Training") and the army reserve; the latter is composed of World War veterans who have enlisted voluntarily and who, so far as known, are not organized and receive no training.

The military, naval, and air appropriations for 1921–22 and 1922–23 were as follows; those for 1923–24 are not yet available:

	1921–22	1922–23	1922–23
	Pounds.	*Pounds.*	*Dollars.*
Army	2,493,000	1,919,735	9,342,390
Navy	3,180,203	2,520,409	12,265,570
Air force	360,000	413,997	2,014,716

The strength of the various branches of the defense forces is approximately as follows:

Permanent force	3,100
Active citizen force	30,000
Army reserve	48,000
Navy	4,000
Naval reserves	2,700
Air force	300

EQUIPMENT AND MUNITIONS.

There is an ample supply of modern equipment on hand, mostly furnished by Great Britain, and considerable stocks of reserve munitions of all kinds. About $2,000,000 per year, over 20 per cent of the total annual appropriations, is being expended for the systematic erection of new munitions factories, for the maintenance on a nucleus basis of those already existing, and for research work on munitions problems.

At present the Government owns a system of factories capable of manufacturing cordite, clothing, harness, woolen cloth, small arms, and small-arms ammunition. So far as known, all artillery matériel and probably all artillery ammunition has to come from Great Britain.

COAST DEFENSES.

The coast defenses are being strengthened by the installation of 12-inch and probably other guns from the battle cruiser *Australia*, about to be scrapped.

There are in all (permanent and citizen forces) 22 batteries of garrison artillery and 8 fortress engineer companies, besides small detachments of other troops, manning the following defenses:

State.	Defenses.	Armament (where known).
Queensland	Brisbane	
	Thursday Island	
	Townsville	
New South Wales	Sydney	At least 13 9.2-inch guns, 27 6-inch guns, 12 14-pounders, 3 3-inch guns.
	Newcastle	
Victoria	Melbourne	At least 5 9.2-inch guns, 15 6-inch guns, 3 4.7-inch guns, 8 14-pounders.
South Australia	Adelaide	
West Australia	Freemantle	At least 2 9.2-inch guns.
	King George Sound	At least 3 6-inch guns.
Tasmania	Hobart	

TRAINING.

According to the defense act, all male inhabitants of Australia (except those specially exempted) who have resided therein for six months and are British subjects shall be liable for training as follows:

12–14 years ..... Junior cadets.
14–18 years ..... Senior cadets.
18–26 years ..... Citizen forces.

During 1922, due to reduced appropriations, the annual training of the citizen forces was confined to populous areas, and in such cases included only four days' training at home stations; all cadet training was suspended except the two older classes in the senior

cadets. Due to the above, and also to the fact that training has been very limited since 1919, the citizen forces and cadets are in a very unsatisfactory condition as regards training. The army reserve of 48,000, mentioned above, consists of World War veterans who have volunteered. As time goes on these men will need more and more training in case of mobilization.

To partially make up for the lack of training given to units, every effort is being made to encourage the attendance of officers and noncommissioned officers of the citizen forces at courses of instruction, usually of 10 days' duration, held at various places. During 1922 attendance at these courses was more than 3,000.

The training system of the permanent force includes the Royal Military College at Duntroon and the Naval College at Jervis Bay (for the training of student officers), an artillery school of instruction, and a central training depot which provides instructors for the citizen force. During 1922 coast artillery target practice was held at most of the stations but the field artillery units did no firing.

DISTRIBUTION.

For training and administrative purposes there are six military districts, as follows:

No.	Extent.	Headquarters.
1	Queensland	Brisbane.
2	New South Wales	Sydney.
3	Victoria	Melbourne.
4	South Australia	Adelaide.
5	West Australia	Perth.
6	Tasmania	Hobart.

The cavalry and infantry divisions are distributed as follows:

1st Cavalry Division	Sydney (headquarters).
1st Cavalry Brigade	Queensland.
2d Cavalry Brigade	New South Wales.
3d Cavalry Brigade	New South Wales.
2d Cavalry Division	Melbourne (headquarters).
3d Cavalry Brigade	Victoria.
5th Cavalry Brigade	Victoria.
6th Cavalry Brigade	South Astralia.
1st Division	Sydney (headquarters).
1st Infantry Brigade	New South Wales.
7th Infantry Brigade	Queensland.
8th Infantry Brigade	New South Wales.
2d Division	Sydney (headquarters).
5th Infantry Brigade	New South Wales.
9th Infantry Brigade	New South Wales.
14th Infantry Brigade	New South Wales.

3d Division	Melbourne (headquarters).
4th Infantry Brigade	Victoria.
10th Infantry Brigade	Victoria.
15th Infantry Brigade	Victoria.
4th Division	Melbourne (headquarters).
2d Infantry Brigade	Victoria.
3d Infantry Brigade	South Australia.
6th Infantry Brigade	Victoria.
5th Division	Brisbane (headquarters).
11th Infantry Brigade	Queensland.
12th Infantry Brigade	Tasmania.
13th Infantry Brigade	West Australia.

The three mixed brigades are located in Queensland, Tasmania, and West Australia, respectively.

MOBILIZATION.

The citizen force may be called out in time of war by the governor general, without the assent of parliament, but no members of the defense forces, either permanent or citizen, shall be required, unless they volunteer, to serve beyond the limits of the Commonwealth of Australia or territory under its control. When any State government proclaims that domestic violence exists in that State, the Governor General of the Commonwealth may call out both permanent and citizen forces, but the latter shall not be called out or utilized in connection with an industrial dispute.

Due to poor rail communications (especially the nonuniformity of railway gauges) and lack of training, mobilization would be comparatively slow. Mobilization equipment and stores, while probably adequate, are not conveniently stored for all units.

The military man power, reckoned as 25 per cent of the male population, is about 600,000. Based on Australian efforts during the World War, it is believed that the maximum overseas force that could be maintained would not exceed 100,000 and that the first contingent of 20,000 could not be ready for embarkation in less than two months.

AIR FORCE.

The latest information available indicates that the air force consists of one flying squadron and has a total personnel of about 300. Total equipment consists of about 100 airplanes and a few seaplanes given to Australia during 1921–22 by Great Britain. Except for the seaplanes, these machines are not of the latest types.

There is a flying school and air depot in Victoria. Army and navy officers are to be trained as pilots and observers and a civilian reserve will be built up. The increase of nearly $300,000 in the

1922–23 estimates was probably used largely for the development of civilian aviation.

NAVY.

The naval forces at present consist of the following:

In commission:
- Three light cruisers.
- Three destroyers.
- One sloop.
- Five small craft.

In reserve:
- One battle cruiser (to be scrapped).
- Six submarines (to be sold).
- Six destroyers.
- One light cruiser.
- One sloop.

The personnel is as follows:

Active	4,000
Reserve	2,700

GEOGRAPHIC.

The strength of the strategic position of Australia is its insularity, so long as the control of the sea is held by the British Navy. From a political and economic strategic point of view the position of Australia is exceedingly weak. It is a very sparsely settled white country, unable to fill up its vast uninhabited portions, but surrounded by large numbers of the yellow race who are seeking expansion.

The civilized portions of Australia comprise no more than a fringe around the great interior desert, mostly in the southeast and eastern parts. It is only recently that a railroad has been completed across the desert connecting West Australia up with Queensland and New South Wales. Nonuniformity of railway gauges in the several States adds to the inadequacy of communications. Except by water, there is practically no communication with the Northern Territory, with the result that the authority of the central Government is scarcely felt in this region, which has recently been practically terrorized by radical influences.

SOUTH AFRICA.

MILITARY SYSTEM AND POLICY.

The principal mission of the land forces is the preservation of internal order in the face of racial or labor troubles, such as the Rand outbreak in March, 1922, and the Hottentot rebellion in May,

1922. The naval forces consist of three small vessels useful only for police purposes. South Africa, although making no contribution to its support, relies on the British Navy for sea defense.

The military system is in general based on compulsory training for that portion of the population of European descent; the defense forces may be called out by the Governor General for the prevention and suppression of internal disorder, and in time of war for active service against an enemy anywhere in South Africa inside or outside the Union of South Africa.

A defense force, based on obligatory military training similar to that in effect in the Union of South Africa, has been formed in the Territory of Southwest Africa, which is a mandate of the Union of South Africa.

ORGANIZATION AND STRENGTH.

The military, naval, and air forces are combined under a department of defense, which is headed by a council of defense consisting of the minister and several reserve or retired officers.

According to the 1912 South African defense act, amended in 1922, the defense forces consist of:

(*a*) Permanent force—active and reserve.
(*b*) Coast garrison force—active and reserve.
(*c*) Citizens' force—active and reserve.
(*d*) Rifle clubs and cadets.

The permanent force is largely a training cadre; the field forces consist of three batteries of field artillery and three squadrons of mounted infantry. The air force, discussed below, is part of the permanent force.

The coast garrison force is a semipermanent organization composed of citizens who volunteer. It consists of seven coast-defense companies.

The citizens' force, composed of citizens undergoing voluntary or compulsory training between the ages of 21 and 25, consists of units of all branches, but with a large proportion of cavalry (mounted infantry).

All citizens between the ages of 21 and 25 who are not entered for peace training with the citizens' force are obliged to joint a rifle association, and boys between 13 and 17 are compulsorily enrolled in cadet units, unless parents interpose written objections, where the density of the population warrants.

The 1922–23 military estimates totaled about $4,500,000, as compared with $6,500,000 for 1921–22. Following is a comparison of some of the more important items:

	1922–23	1921–22
Permanent field force	$1,204,143	$2,071,654
Coast garrison force (including permanent detachments)	1,411,803	1,466,283
Citizens' force	592,959	1,231,268
Rifle associations	143,562	78,473
Cadets	134,709	294,428
Navy	295,348	460,103
Air force	441,664	442,175

The latest information available gives the strength of the various branches of the active defense forces as follows (no figures available for reserves):

Permanent force	2,000
Coast garrison force	500
Citizens' force	12,000
Cadets	36,000
Rifle associations	120,000
Navy	400
Air force	275

TRAINING.

All able-bodied male citizens of European descent between 21 and 25 years of age are liable to compulsory training in either the citizens' force or the coast garrison force, in case the number volunteering for such training is not sufficiently large. Normally this compulsory training includes three continuous periods, of which one lasts not more than 50 days and the other two periods taken together not more than 30 days. With the present reduced appropriations, not over 6,000 citizens are annually given a modified course of training.

DISTRIBUTION.

For training and administrative purposes the country is divided into 15 military districts, among which the units of the citizens' force are divided. Permanent field artillery units and the air force are normally concentrated near Pretoria, while the mounted infantry units are scattered through the outlying districts performing police duty. Six companies of the coast garrison force man the coast defenses at Simonstown and Table Bay (both near Capetown) and one company is stationed at Durban.

MOBILIZATION.

All citizens of European descent between 17 and 60 are liable to render personal service in time of war and, as stated above, those between 21 and 25 are liable for compulsory training. From 25 to 45 they form part of the citizens' reserve forces.

The governor general in time of war has extensive powers, including the closing of ports, the requisition of buildings, food, forage,

and transport vehicles, the condemnation of property, the operation of all railroads, and the establishment of a strict censorship.

The available military man power, 25 per cent of the male white population, is about 190,000. Based on South African efforts in the World War, it is believed that the maximum force that could be maintained overseas would not exceed 30,000.

AIR FORCE.

The air force, though small, is well organized and equipped, due to recent gifts by Great Britain of 100 planes, complete, with all necessary spare parts, transport vehicles, work shops, repair machinery, and hangars.

In September, 1922, the personnel consisted of about 25 officers and 250 men, and there was one squadron, consisting of three flights of six machines each, in commission.

NAVY.

Up to 1921 the Union paid an annual subsidy toward the maintenance of the British Navy, but this has now been discontinued.

The South African fleet consists of one survey vessel, a schoolship, and two mine-sweeping trawlers, and the total personnel is about 400. In addition to keeping up the above establishment, improvements are being made in the naval base at Simonstown, including the establishment of an oil-fuel-storage station.

GEOGRAPHIC.

The territory of the Union covers 473,000 square miles and contains a native population outnumbering the European population by 4 to 1; in territories surrounding South Africa, but within the latter's economic and political sphere, such as Rhodesia and the Southwest Africa mandate, the ratio is even greater. Not only that, but there is disaffection among the whites (British and Boers) in the Union itself over political and labor questions.

The strategic center of the country is the mining area around Johannesburg, to which the shortest lines of approach from the coast are from Durban and from Delagoa Bay (the latter in Portuguese territory)—distance about 300 miles in each case. From Johannesburg to Capetown is about 800 miles.

South Africa has no neighbor likely or able to attack her, but the large outlying areas are sources of weakness in case of internal disorder. The industrial area around Johannesburg is well situated as regards defense against external aggression, and its limited area makes the suppression of internal disorder a simple strategical problem.

NEW ZEALAND.

MILITARY SYSTEM AND POLICY.

New Zealand's military forces are primarily for the purpose of preserving internal order; for external defense she relies on the British Navy.

The military system is based on universal liability for training between the ages of 14 and 25 and, if necessary, to complete the authorized quotas, compulsory service in the permanent or territorial forces. The former may be required to serve in New Zealand or abroad and in case of internal disorder may be used as a police force. The territorial force is liable for service anywhere in New Zealand, and its members may volunteer for service abroad. During the World War legislation was passed extending compulsory service to the overseas forces.

ORGANIZATION.

The military and naval forces are combined under a minister of defense. There is no defense council, as in the case of some of the other British dominions, but the military forces are directly under the commanding general of the New Zealand forces; naval questions are handled by a naval board. There is no military aviation, but civil aviation and questions of future aviation policy and defense are in the hands of an air board. For purposes of administration and training of the military forces, there are three territorial commands, each under a colonel and in turn subdivided into regimental districts.

The defense forces consist of:

(*a*) Permanent force.
(*b*) Territorial force.
(*c*) Reserves.
(*d*) Cadets.
(*e*) Rifle clubs.

The permanent force is entirely a caretaking and training cadre, and there are no units at all, other than small detachments. This force consists of the following:

Staff corps (officers).
Permanent staff (enlisted men).
Royal New Zealand artillery—detachments.
Royal New Zealand ordnance corps—detachments.
Royal New Zealand pay corps—detachments.

The staff corps and the permanent staff have charge of the training and administration of the territorial force and cadets. The artillery is divided into a garrison artillery section and a field

artillery section; these furnish instructors for territorial units and caretaker detachments for seacoast fortifications and for the preservation of Government property. The ordnance corps is primarily in charge of mobilization equipment and supplies.

The territorial force consists of volunteers and of citizens undergoing compulsory training between the ages 18 and 21; the units of the territorial force include—

Three mounted brigades.
Three field artillery brigades.
Two coast batteries.
Four heavy artillery batteries.
Two pack batteries.
Three infantry brigades.

The mounted brigades consist of three regiments of mounted rifles; field artillery brigades have three 18-pounder batteries and one 4.5-inch howitzer battery. In each infantry brigade there are four battalions with a number of cadet battalions attached.

The reserves consist of a reserve of officers, permanent force reserves, and territorial reserves, the latter consisting of citizens undergoing compulsory training between 21 and 25.

Cadets consist of boys undergoing compulsory training between 14 and 18 and are formed into companies and battalions attached to territorial infantry battalions.

Rifle clubs are not integral parts of the defense forces, but receive Government assistance.

Army appropriations in 1921–22 were £600,000 (£509,000 spent), and in 1922–23, £350,000; naval appropriations in 1922–23 were £335,782.

The present approximate strength of the defense forces is as follows:

Permanent force	500
Territorial force	15,000
Cadets	24,000
Rifle clubs	6,000
Navy	700

EQUIPMENT AND MUNITIONS.

It is believed that the New Zealand forces are provided with a sufficient supply of modern equipment, largely obtained from Great Britain, and that considerable stocks of mobilization stores are on hand. So far as known, New Zealand does not produce at home either artillery matériel, artillery ammunition, small arms, or small-arms ammunition, although certain components of the latter are manufactured in New Zealand.

COAST DEFENSES.

There are coast defenses at Auckland, consisting of approximately four 9.2-inch guns, eight 6-inch guns, and six 6-pounders, and at Wellington (armament unknown). Detachments of the permanent artillery and territorial coast batteries are stationed at these points.

TRAINING.

It can almost be said that New Zealand at the present time has no trained forces whatever, due to the great reduction in training during the past few years. Not only have the number of boys and citizens trained each year been greatly reduced and the period of training greatly modified (no field training at all), but the central school of instruction at Trentham has been closed, thereby stopping the valuable instruction courses given to selected officers and non-commissioned officers of the territorial force.

New Zealand has no military college of its own, and until a year ago, has been sending about 10 cadets annually to the Australian military college at Duntroon. This has now been stopped, and due to the recent reduction in the Australian permanent force, it will be several years before any officers at all are appointed to this force.

As stated above, the universal training system has been greatly modified, for reasons of economy. Between 14 and 18 boys are trained in the cadets, between 18 and 21 in the territorial force, and from 21 to 25 they form part of the reserves. Those between the ages of 18 and 21 not needed for the territorial force are, it is believed, assigned to what is known as the general training section and given even less training than in the territorial force. During 1922 there were 10,500 cadets registered for training, of whom 9,000 were assigned to cadet units; the number assigned to territorial units was only 4,300 out of 7,000 liable for such assignment. Field training for cadet and territorial units has practically been abandoned. The schedule laid down calls for 20 drills annually, each of one and one-half hours, and 12 one-half-day periods, each of three hours duration. This system is modified in outlying districts so that the work of young men on farms shall be interrupted as little as possible.

DISTRIBUTION.

The extent of the different territorial commands is as follows:

Northern command—Northern half of North Island of New Zealand.

Central command—Southern half of North Island of New Zealand.

Southern command—South Island of New Zealand, Steward Island, and Chatham Islands.

The territorial forces are divided equally between the three commands, so that in each command there is one infantry brigade, one brigade of mounted rifles, and one field artillery brigade. Coast batteries are stationed at Auckland and Wellington.

MOBILIZATION.

The New Zealand forces in case of mobilization would be assembled at the following depots, where equipment and munitions are on hand:

Northern command	Ngaruawahia.
Central command	Burnham.
Southern command	Trentham.
General reserve depot	Trentham.

Although railroad communications are good and supplies of equipment and ammunition probably sufficient, mobilization and training would be slow, due especially to the lack of trained noncommissioned officers.

New Zealand's military man power, reckoned as 25 per cent of the male population, is about 160,000. Based on her efforts in the World War, it is believed that the maximum force that could be maintained overseas would not exceed 30,000 and that the first contingent of 10,000 would not be ready for embarkation in less than two months. During the World War New Zealand maintained abroad an infantry division and a cavalry brigade.

AIR FORCE.

There is, properly speaking, no air force. Two officers and two men of the permanent force are assigned to aviation duty, consisting in the maintenance of defense air equipment and control of civil aviation, which includes the inspection of machines and airdromes, granting of licenses to pilots, and control of Government assistance to civil companies.

As stated above, there is an air board which acts as advisor to the Government on matters of air defense and civil aviation development. In 1921, 33 airplanes, with spare parts and accessories, were received from Great Britain, and all but six of these have been loaned to civil aviation companies.

NAVY.

The New Zealand naval forces consist of only two ships—a cruiser and a training vessel. The total personnel is 35 officers and 550 men.

GEOGRAPHIC.

New Zealand, being an island, has the sea for a natural strategic barrier. Like Australia, 1,200 miles away, New Zealand depends for security from foreign invasion on control of the sea by the British Navy.

GREAT BRITAIN.

NAVAL POLICIES—COMMENT ON AUSTRALIAN SITUATION.

May, 1923.

There is reason to believe that the British naval officers who are nominally at the head of Australia's naval-defense procedure feel that Australia's naval policy is largely dictated by political influences. It is further intimated that it is exceedingly difficult to bring the Australian public mind to realize the vital necessity of cooperating with the British Empire in the matter of naval defense and in bringing the Australian, generally, to realize that he at present has no suitable or adequate means of defense of any kind.

Moreover, it is intimated by these British naval authorities in Australia that, with Japan's preponderance of naval strength in the Pacific basin, it may be assumed that that country would strike first in case of necessity and also in case any elaborate defense procedure were undertaken by other countries—reference being made in particular to the British Empire.

In the meantime the chief British naval representative in Australia, who arrived in November, 1921, is planning to leave for England during the present year (August, 1923). It appears that he feels it is very difficult, under the present conditions, to make Australians realize that they should contribute more generously toward the support of the British Empire naval defense burden.

GREAT BRITAIN.

NAVAL POLICY WITH RESPECT TO THE UNITED STATES.

May, 1923.

In the course of an extended conversation with a prominent British naval writer, following a small dinner party, a number of very interesting statements were made, some of which are in substance as follows:

Soon after the war he told Lloyd George, then Prime Minister, that as a result of the outcome of the war the only country that could give Great Britain any concern in the near future was the United States; that the three principal points of friction between the United States and Great Britain were (1) the Irish question, (2) the navies, and (3) the debt.

As regards naval strength, informant said he advised Lloyd George to reduce the British Navy as might seem advisable in view of economic conditions and without regard to the strength of the United

States Navy, for if the British Navy were very materially reduced the people in the United States could be counted on to force very material reductions in the United States Navy. Informant considers that the present character of the Navy as now maintained is wrong, in view of changing methods of warfare. It is advisable to maintain a thoroughly efficient nucleus and keep up morale and spirit and carry on the general staff work; then when the situation demands expansion of naval strength the Navy will give a good account of itself.

He avoided, apparently intentionally, expressing views as to his own attitude or the attitude of the Admiralty, relative to the maintenance of a parity of forces under the Washington Treaty. He considered that discussions of equality led to suspicion and friction. For that reason he advocated the course which he advised Lloyd George to take, as indicated above. He also stated that the British feel that perhaps they made a grave mistake in divulging British naval secrets to officers of the United States Navy during the World War. He said that the responsible officers at the Admiralty always have in mind the remarks made at the dinner given by the Navy League to Mr. Denby in the spring of 1921 to the effect that the United States must have a stronger navy than Great Britain.

GREAT BRITAIN.

TARGET PRACTICE OBSERVED.

May, 1923.

Source: Commanding Officer of a United States Man-of-War.

On the 25 April, 1923, I observed the antiaircraft firing of a British cruiser (*Caradoc* class) in the Sea of Marmora from a range of about 5,000 yards. She was steaming at from 25 to 30 knots into the wind. Sea calm, wind force 2–3. Her procedure was to fire one shot, bursting at an altitude of about 2,000 feet, this being a large black smoke burst. Then after a wait of about 30 seconds she opened fire very rapidly, using the smoke burst as a target. I saw 30 bursts in the air at once, all very accurately short from 50 to 250 feet of the target burst. I estimate she fired 30 shots each string. She fired about five strings, using a new smoke burst each time. The accuracy of each string was the same.

On the 26 April I observed the broadside firing of the same vessel from a distance of about 3,000 yards. She fired at a target similar in size to the United States battle target, in tow by H. M. S. *Chrysanthemum*. Speed of firing ship, about 20–25 knots; speed of

target, about 5 knots in the opposite direction; firing range estimated at from 3,000 to 5,000 yards; salvo firing (probably director, as firing was simultaneous from all guns). First salvo of five shots landed about 600 yards over; second salvo 300 yards over; third salvo a straddle with two shots short; and succeeding salvos to numbers of five or six were straddles with two shots short. Ninth and tenth salvos were apparently two rapid single-gun salvos, both shots falling short about 300 yards. Wind force 0–1; sea calm.

JAPAN.

AIRPLANE PLANT OF KAWASAKI DOCKYARD COMPANY, KOBE.

May, 1923.

As is well known, the Kawasaki Dockyards Co. is one of the strongest and best organized firms in Japan, the airplane manufacture being but a side issue. It is at present engaged in the manufacture of Salmson planes and motors for army use.

This company has purchased a large tract of land near the aviation battalions at Kagamigarara. No factory, however, has been constructed there; the company wishes to wait until sufficient number of orders for planes would justify it, although the army is anxious for them to build at once. So far only one small hangar has been constructed on the ground purchased.

The first plane (without motor) was completed in November, 1922. Judging from the numbers on the planes in the workshop, it is estimated that 26 have already been completed, and the unfinished frames of six others were seen. The workmanship is excellent, being superior perhaps to that at the army arsenal in Nagoya.

No motor has yet been completed, although the shop was busily engaged on unfinished parts. The machinery is practically all American. Twelve unfinished radiators were seen in the shop. The present capacity is estimated at from 5 to 10 per month. The Japanese manager stated that the motor was not difficult to make and that the capacity of manufacture could easily be increased, but that they were now chiefly engaged in training workmen. Forgings for the engine, as well as the carburetor, are imported from France. Propellers also are not made at this factory. The Japanese engineer stated that a completed Salmson, including motor, costs about yen 30,000.

An English ex-aviator is employed at these works, although he states he is given nothing to do. He says that the army contract calls for 10 completed planes per month. He says that a new 300 horsepower Salmson motor will be manufactured in the future.

The Kawasaki company's airplane department is not so important just now, but would be easily capable of extension if conditions warrant. It has money, organization, and a large body of workmen to draw on and is the most important civilian plant for army aviation, just as the Mitsubishi company is the most important for naval aviation.

JAPAN.

GUN ELEVATIONS ON CAPITAL SHIPS.

April, 1923.

In conversation some time ago a high Japanese naval official stated that the extreme angle of elevation of turret guns on Japanese capital ships to be retained under the five-power treaty subsequent to the *Mutsu* and *Nagato* had been increased prior to the Washington Conference. He did not state, and possibly was not familiar with, the details, but the impression was that angles of elevation had been increased by 6° or 8°. Whether this was done solely by modifying the mount or also involved increasing the size of gun ports is not known.

Due to the prominence given the subject in the Japanese press, it has not been considered advisable, in the absence of definite instructions, to ask direct and specific questions as to angles of elevation, but it is believed that the Japanese ministry of marine is prepared to answer such questions in return for similar information regarding our navy.

JAPAN.

LIGHT CRUISER "ABUKAMA."

April, 1923.

There seems to be some mystery about this vessel, but vigilant inquiry has failed to clear it up.

On 17 March, 1923, a banquet for 400 guests was given in Tokyo to celebrate the launching of the *Abukama* the day before. Such a celebration is most unusual, and it is even more unusual that the guest of honor seems to have been General Yamanashi, minister of war.

Only one paper, and that a very minor one, gave any details of the ship when launched. The details given were: Displacement, 5,570 tons; length, 500 feet; beam, 47 feet; draft, 16 feet; speed, 32 knots; armament, one 5.5-inch gun, two 3-inch guns (antiairplane), two machine guns, eight torpedo tubes. (The number of 5.5-inch guns may have been an error, but if not it certainly adds to the mystery.)

JAPAN.

LIGHT CRUISERS AND DESTROYERS BUILDING.

May, 1923.

Further information has come to hand elucidating the cruiser-building program. While the information furnished the Diet by the ministry of marine on the building program 1923 budget was correct, two 7,500 cruisers (the *Kako* and *Furutaka*) are being built from the 1922 budget (Extraordinary accounts, Sec. I "Expenditures for completing armaments, subitem *d*, Construction of warships"). In the 1922 budget the appropriation for building capital ships and other ships was carried as one item, and apparently part of this item has been taken for building the above two cruisers. Therefore the six cruisers in above reference are the *Kinuagasa* and *No. 4* of 7,500 tons and *Nos. 5*, *6*, *7*, *8* of 10,000 tons, and are in addition to the *Kako* and *Furutaka*. The *Kako* is being built by Kawasaki at Kobe and the *Furutaka* at Mitsubishi, Nagasaki. (The name *Kinugasa* was first assigned to the ship being built by Kawasaki (*Kako*), but for some vague reason this was changed to *Kako*, and the next ship laid down was named *Kinugasa*.

As regards destroyers building and to be built, while the information is not so conclusive, still it is probable that, in the same manner as for the *Kako* and *Furutaka*, three destroyers *Nos. 7*, *9*, and *11* are being built from the 1922 budget, which would make the total number of destroyers when present program is completed 81 instead of 78 and the highest number 53 instead of 47.

JAPAN.

NAVAL NOTES.

April–May, 1923.

From Japanese Press.

The Japanese submarine tender *Jingei* was launched at the Mitsubishi Dockyard, Nagasaki, on 5 May, 1923. According to the press the *Jingei* is 380 feet long; beam, 53 feet; displacement, 8,500 tons; draft, 22 feet; equipped to carry four 14-centimeter guns.

The ships of the first and second fleets are now at their respective yards. They will leave about 15 May from their respective stations, the first fleet to assemble at Chinkai and the second fleet at Saiki-wan by May 28, 1923. The first fleet will enter the Japan Sea, cruising

up and around Hokkaido, and join the second fleet at Saiki-wan in the latter part of July and will then engage in joint exercises.

An explosion occurred in the fireroom of the destroyer *Minekaze* while she was en route from Yokosuka to Tokyo Bay on a special trial trip on 8 May, 1923. One warrant officer was killed. No details of the accident have been obtained.

An accident occurred at the Kasumigaura naval aviation station on April 29, 1923, an airplane falling from a height of 600 feet. The pilot, a bluejacket, was seriously injured.

The naval aviation corps successfully carried out a flying test of, and torpedo shooting from, a new model Mitsubishi airplane (built entirely by Japanese) in Tokyo Bay April 25, 1923. No details are available at this time.

On April 21, 1923, submarine *No. 24* (15th division) while entering Agenosho (inland sea) in company with the *Tenrizu* and *Komabashi* and the 11th submarine division grounded at high tide. She was floated, and though her bottom was badly damaged she was towed to Kure, where she will be repaired.

On April 22, 1923, in a fog in Bungo Channel the light cruiser *Kuma* collided with the special service ship *Yamato*. Both ships were seriously damaged, but managed to make Kure, the *Yamato* in tow of the *Kuma*.

Submarine *No. 19*, while en route to Kure from Yokosuka about April 18, 1923, had engine trouble and met with heavy weather. She was taken in tow by the *Yahagi*, but the towline parted and she was almost given up for lost. However, she finally made Osaki, Shiozaki, and subsequently reached Kure.

According to press accounts the *No. 19* not only developed engine trouble but other matériel defects, including defects in fuel tanks sufficient to require a month to repair. The *No. 19* belongs to the active fleet.

While cruising in the south with the second fleet, submarine *No. 34* had a serious explosion (probably hydrogen), which damaged the ship considerably, killed one officer, and injured one officer and several men. The *No. 34* was towed to Yokosuka, arriving 23 March, 1923.

Later in the spring the special service ship *Kwanto* and the sixth destroyer division are to be sent to the scene of the *Niitaka* disaster

to remove bodies and equipment and blow up the wreck. The inference is that confidential papers were left on board that the Navy Department wishes to recover or destroy beyond the possibility of their falling into unauthorized hands.

There is reason to believe that submarine *No. 71* was launched at Kobe on 19 March, 1923, by the Kawasaki Dockyard Co.

Information regarding submarines laid down, launched, and completed is becoming more and more difficult to obtain, and above information is not definite.

With the change of the department of naval education to the bureau of naval education, 1 April, 1923, naval schools will be under the bureau as follows: Higher naval college, naval academy, engineering school, medical school, paymaster's school. The torpedo school and gunnery school will be under the commander in chief of Yokosuka Naval Station. The submarine school will be under the commander in chief of Kure Naval Station.

The work of modernization of the *Haruna* will begin sometime in June, and the yen 2,200,000, appropriated for this purpose for this fiscal year, will not be sufficient, and will have to be made up from the next appropriation. Similar work will be started on another ship next year.

According to the Japanese press, admissions to Japanese naval schools in 1923 will be as follows:

Academy	80
Engineering School	30
Paymaster's School	12

While a salute was being fired by the *Kirishima* in honor of the Prince Regent at Keelung on April 24, 1923, a premature explosion took place, hurling the cartridge case to the rear. Three men were injured. It was stated that a high angle gun was being used for saluting when the accident occurred, and the cause of the premature explosion is under investigation.

Graduation exercises of the naval academy will be held on July 14, 1923, when about 260 cadets will be graduated. The squadron will be composed of the *Iwate*, *Asama*, and *Yakumo*. They will first go to Maidzuru and then to Sasebo, from there to Osaka, then cruise along the coast of Chosen and China, and back to participate in the grand maneuvers. When this is over they will return to Yokosuka and

start for a cruise along the coast of Australia, which may possibly be extended as far as the Mediterranean Sea. This is the second time the training squadron has participated in the grand maneuvers.

A fire occurred in the radio room of the *Hyuga* while en route to maneuvers May 18, 1923. The fire was suppressed before it spread outside the radio room, but the vessel was required to postpone maneuvers about two weeks so as to make the necessary repairs.

A building will be constructed near the naval ordnance experimental station at Kure as quarters for the submarine school. Upon completion of these quarters, April, 1924, the school will move from the Itsukushima into the new building.

Lieutenant Ito, of the Kasumigaura Aviation Corps, while engaged in target practice with one of the navy machines, dropped from a height of about 300 meters. The lieutenant and Sublieutenant Takahashi, who was also in the machine, were seriously injured and may not live. The cause of the accident is under investigation.

JAPAN.

NEW MINISTER AND VICE MINISTER OF MARINE APPOINTED.

15 May, 1923.

The throne announced today the name of Admiral Takeshi Takarabe as succeeding Admiral T. Kato in the office of Minister of Marine. Vice Admiral K. Okada has been selected to succeed Admiral K. Ide in the office of Vice Minister of Marine.

Memoranda of the service records of the successors to office are as follows:—

Takarabe, T., admiral:

Born at Miyasaki Ken, 4 July, 1867; second son of T. Takarabe, a samuria of Miyasaki; married Ine, the eldest daughter of Admiral A. Yamamoto; has four sons and two daughters; 4 August, 1884, entered the naval academy; studied in England; August, 1902, commander; graduated higher naval college; during Russo-Japanese war was on the navy general staff; 12 January, 1905, promoted to captain; 1907, commanded the *Chitose* and the *Saya:* 1908, commanded the Fuji; 1 December, 1909, promoted to rear admiral; 1909, chief of staff, first squadron; December, 1909, appointed vice minister of marine, which aroused much criticism; resigned on account of naval scandal; was made the official scapegoat; 1 December, 1913, vice admiral; May, 1914, served on board of administration; June, 1914,

waiting orders, sick; February, 1915, commander in chief third squadron; December, 1915, commander in chief Ryojun naval station; suffered a great deal from sickness; December 1916, served on the board of administration preparatory to more active employment; began to be very civil to press; 20 May, 1918, commander in chief Maidzuru naval station; January, 1919, commander in chief Sasebo naval station; November, 1919, appointed admiral; February, 1920, commander in chief Sasebo naval station; July 1922, commander in chief Yokosuka naval station; May 15, 1923, minister of marine.

Okada, Keisuke, vice admiral:

Born January, 1867, in Fukui-ken; eldest son of Kitoba Okada; married Iku, sister of Hisanari Hasemuzu; has one son and two daughters; decorated with the second class Order of Rising Sun and third class Order of Golden Kite; 1885, entered naval academy; 1894, lieutenant on board the *Naniwa* during the Chino-Japanese War; 1899, lieutenant commander; 1904, commander; executive officer on *Kasuga* during the Russo-Japanese War. 1908, captain; 1911, member of the bureau of personnel; 1912, commanding *Kashima;* 1913, rear admiral, chief of Sasebo naval arsenal; 1914, commanding torpedo division of the second squadron; 1915, chief of the second and third sections, naval technical office; 1916, chief of personnel bureau; 1917, vice admiral, command Sasebo naval station; 31 December 1918, director matériel bureau, navy department; 20 February, 1922, chief of bureau of material, member of board of admirals; 15 May, 1923, has been selected for the office of vice minister of marine.

Admiral Takarabe will be relieved as commander in chief at Yokosuka by Admiral Nomaguchi, K., of the war council, and Vice Admiral Ide will be ordered to the war council.

The candidates prominently mentioned as candidates for the office of minister of marine were Admiral Murakami, Admiral Takarabe, Vice Admiral Suzuki, Vice Admiral Okada, and Vice Admiral Ide.

It is felt that Vice Admiral Ide was the logical successor and the choice of Admiral Kato, for the reason that Ide is thoroughly familiar with and has been conducting the premier's naval limitation plans. On the other hand, a group of naval officers who feel injured at having been put on the retired list by Admiral Ide, in pursuance of the limitation policy, have organized sufficient opposition to prevent his selection. His private life was also used as an argument against him.

A story taken from the press regarding this is somewhat as follows:

Vice Admiral Ide, vice minister of marine, failed to be appointed to succeed Admiral Kato as minister of marine due to an attack by his enemies in which his family affairs were freely discussed. They stated that while he was a lieutenant commander, stationed at Kawa-

saki Dockyard as an inspector, he became acquainted with a beautiful young geisha girl. In 1917 he was made a vice admiral and in the same year a daughter was born to his lover. In 1918 they were formally married, but in doing so he had a very difficult time obtaining the necessary permission from the navy department. Those attacking him are said to be of the " Takarabe " group and those who suffered retirement recently. This group also sent documents covering the above affair to the Kenseikai party to be used for attacking the Government.

Admiral Takarabe unquestionably is indebted for this appointment to his father-in-law, Admiral Yamamoto, who was premier in 1913–1914 and whose cabinet fell as a result of the revelation of a navy scandal at that time. Takarabe was vice minister of marine at the time. Since then Admiral Yamamoto has lived in the shadows beyond the political limelight, but has successfully maintained himself as head of the powerful Satsuma clan and as such has wielded considerable power in political affairs. Kato is not a member of the Satsuma clan, but has succeeded in maintaining friendly relations with the clan, and it is believed that he was influenced in his selection of a clan member for his cabinet by the power of Satsuma, which would in this manner be enlisted in the support of his wobbling ministry. This selection is construed by some as a return to power by the Satsuma clan, viewing the appointment of Takarabe as a feeler for public opinion, which, if favorable, would point to the return of Yamamoto to active politics and the roads paved toward resumption of clan rule.

By the selection of Vice Admiral Okada as successor to Vice Admiral Ide the premier eliminated the possibility of a stigma being cast to the effect that Ide was retained under Takarabe as a tool for the premier; also, this selection served to give Takarabe, who is comparatively unfamiliar with present departmental affairs, the support of one who is quite as familiar with conditions and quite as competent as Ide proved himself to be. The first flush of opinion seems to indicate the selections are popular in political circles but that there is an element of naval officers, consisting of 15 or 16 recently retired vice admirals and rear admirals who in lamenting their severance from service accuse Kato and Ide of arbitrariness in regard to personnel and administration. These officers were strongly in favor of Suzuki for minister of marine, and they held a consolation party last evening to "air their feelings" and give vent to their displeasure of Kato's selection of Takarabe. Since the ones who have a grievance make the most smoke, it will be impossible until the atmosphere clears to gauge the attitude of the service in general in regard to this change in ministry.

JAPAN.

OFFICER COMPLEMENT OF VARIOUS TYPES OF SHIPS.

April, 1923.

In none of the official publications of the Japanese ministry of marine is the officer personnel for each ship given as such, but for purposes of comparison with our own and other navies the commissioned personnel for one vessel of each type has been picked out from the lineal list as carried in the Japanese Annual Navy Register of January 1, 1923.

VESSELS IN ACTIVE COMMISSION.

Nagato (superdreadnaught).

1 captain	Commanding.
7 commanders	Executive.
	Navigator.
	Gunnery.
	Torpedo.
	Engineer.
	Paymaster.
	Surgeon.
3 lieutenant commanders	Communication.
	Assistant gunnery.
	First lieutenant.
10 lieutenants	6, deck watch.
	4, engine-room watch.
6 lieutenants (j. g.)	2, acting deck watch.
	1, acting engine-room watch.
	1, duty not given (line).
	1, assistant surgeon.
	1, assistant paymaster.
8 ensigns	3, line.
	4, engineer.
	1, medical.

Total, 35.

Hiyei (battle cruiser).

1 captain	Commanding.
3 commanders	Executive.
	Engineer.
	Surgeon.
6 lieutenant commanders	Gunnery.
	Torpedo.
	Navigator.
	First lieutenant.
11 lieutenants	Assistant, gunnery.
	Paymaster.
	5, deck watch.
	4, engine room watch.
	1, communication (acting).
	1, assistant surgeon.

5 lieutenants (j. g.)	2, acting deck watch.
	1, acting engine room watch.
	1, duty not given (line).
	1, assistant paymaster.
9 ensigns	4, line.
	4, engineer.
	1, medical.

Total, 35.

Tama (light cruiser).

1 captain	Commanding.
2 commanders	Executive.
	Engineer.
2 lieutenant commanders	Torpedo.
	Gunnery.
7 lieutenants	Navigator.
	Communication.
	Engineer.
	Surgeon.
	1 deck watch.
	2, engine room watch.
3 lieutenants (j. g.)	2, acting deck watch.
	1, acting engine room watch.
5 ensigns	2, line.
	2, engineer.
	1, medical.

Total, 20.

Hokaze (destroyer).

1 commander	Commanding.
4 lieutenants	Gunnery.
	Torpedo.
	Navigator.
	Engineer.
2 ensigns	1, line.
	1, engineer.

Total, 7.

No. 36 (submarine).

1 lieutenant commander	Commanding.
1 lieutenant.	
2 lieutenants (j. g.)	1, line.
	1, engineer.

Total, 4.

VESSELS IN RESERVE.

Fuso (superdreadnaught).

1 captain	Commanding.
2 commanders	Executive.
	Engineer.

6 lieutenant commanders	Gunnery.
	Torpedo and communication.
	Navigator.
	First lieutenant.
	Surgeon.
	Paymaster.
2 lieutenants	Assistant gunnery.
	Assistant engineer.
7 lieutenants (j. g.)	4, line.
	2, engineer.
	1, paymaster.
2 ensigns	1, line.
	1, engineer.

Total, 20.

Settsu (battle cruiser).

1 captain	Commanding (also commands Ibuki).
2 commanders	Executive.
	Engineer.
3 lieutenant commanders	Navigator.
	First lieutenant.
	Surgeon.
	(Paymaster of Ibuki also carries Settsu.)
1 lieutenant (j. g.)	Assistant engineer.
2 ensigns	Line.

Total, 9.

Chitose (old light cruiser).

1 captain	Commanding.
1 commander	Executive.
1 lieutenant commander	Engineer.
3 lieutenants	Navigator.
	First lieutenant.
	Division officer.

Total, 6.

Umikaze (Destroyer).

1 lieutenant commander	Commanding.
1 lieutenant	Torpedo.
1 lieutenant (j. g.)	Engineer.

Total, 3.

STAFF OF COMMANDER IN CHIEF, COMBINED FLEET.

2 rear admirals	Chief of staff.
	Fleet engineer.
2 captains	Fleet surgeon.
	Fleet paymaster.
3 commanders	Line.
3 Lieutenant commanders	2, line.
	1, engineer.
2 lieutenants	1, line.
	1 medical.

Total, 12.

JAPAN.

RANGE FINDERS USED IN NAVY.

May, 1923.

Information has been obtained that no vessels of the Japanese Navy now mount any range finders except Barr & Stroud range finders.

It is known that Barr & Stroud has made very heavy shipments of various types of range finders to the Japanese Navy, that they have not yet completed these shipments, and that they estimate that when they complete the orders they have on hand for them the Japanese Navy, including vessels under construction, will be completely equipped with Barr & Stroud range finders.

FRANCE.

MODERNIZATION OF MEN-OF-WAR.

May, 1923.

From Minister of Marine's Argument for the Naval Budget, 1923.

The modernization of our seven battleships (six since the loss of the *France*) of 23,000 tons begun on the *Lorraine* and *Provence* in 1922 will be carried on actively in 1923; it is to the nation's best interest that this be accomplished in the least possible delay.

It includes the installation on these seven battleships of director firing of the major and medium caliber guns and for antiaircraft guns; alterations increasing the range of main battery guns; new radio installations; new searchlights, etc.—these by way of accomplishing the most important improvements looking for security. Likewise we are replacing the old-time fire-control instruments with those better suited to new conditions and capping the 13.4 and 12-inch projectiles with false ogives for increasing their range.

Important work is in hand looking to the improved firing of torpedoes for both surface and submarine craft.

The modernization of submarines commenced in 1922 on some of these vessels will be carried to conclusion in 1923. It includes principally the increased rapidity of diving, a greater radius of action, and better armament, together with improvement in periscopes and radio.

FRANCE.

PROGRAM FOR MANNING THE FLEET.

May, 1923.

From Official Budget Report.

The plan for manning for 1922 was established on the basis of an operations plan by the general staff. The external situation remaining the same, it is indispensable to keep in our fleet, until new ships, recently voted, shall come into service, the following vessels: Ten battleships (7 Bretagne and 3 Voltaire), 10 armored cruisers (3 Quinet, 3 Ferry, 4 Conde), 5 light cruisers, 38 destroyers, 18 torpedo boats, 54 dispatch boats, 3 armed sweepers, 50 submarines.

Experience has likewise shown the imperative necessity for maintaining all of the large units (battleships and cruisers) and half of the smaller craft so manned that they will be available for military purposes, the former on the first day of mobilization and the latter 10 days later. The 1923 plan for manning, like that of 1922, provides three situations for our vessels as follows:

(A) *Full complement.*—Vessels permanently detached to distant stations, also those which are called on missions of long service, and, thirdly, those which are detached in certain locations like the Baltic and the Near East, where conditions are always uncertain.

(B) *80 per cent complement.*—This assures ability to operate in active service.

(C) *40 per cent complement.*—This provides for holding the vessels ready and for manning them on short notice, but is only admissible because of the necessity for cutting down expenses.

All other vessels are thus placed in reserve as not being available within the first 10 days of mobilization. Some out-of-date battleships (*Patrie* and *Pothuau*) are loaned to schools, and some dispatch vessels are on special missions. The disposition of our ships is very much like that in 1922, and is as follows:

MEDITERRANEAN SQUADRON.

The crews of the battleships have been increased by recruits who were not yet able to perform the duties of trained seamen.

The squadron has been augmented by the light division (*Strasbourg*, *Metz*, *Mulhouse*), ex-German vessels, rehabilitated and put into service. The *Thionville*, which was to take the place of a flotilla leader, will be turned over for use at the torpedo school and will be replaced by the *Admiral Senes*.

CHANNEL AND NORTH SEA DIVISION.

The battleship division will include one ship of 80 per cent complement and two others of 40 per cent. While the general staff had planned that two of these vessels be manned with 80 per cent complements, economy restricts us to one. For the same reason one of the two destroyer squadrons attached to this division is but 40 per cent manned. The existence of this division is necessary because of our relations with Germany.

NAVAL FORCES IN THE NEAR EAST AND BALTIC.

Unstable conditions in the Near East and the Baltic oblige us to keep in those waters naval forces sufficient to defend our interests and to cooperate with our military forces when necessary.

To this end, three independent divisions are in service:

(*a*) *Near East division.*—This constitutes two cruisers and four torpedo boats with full complements. Another cruiser remains in a French port with 40 per cent complement and two torpedo boats with 80 per cent complement. It will, perhaps, be possible with improved conditions to recall during 1923 one of these two cruisers and reduce her complement to 40 per cent.

(*b*) *Division in Syria.*—This division is composed of one light cruiser and four torpedo boats with full complements. The evacuation of Cilicia improved conditions in Syria (this was written in the summer of 1922) and permitted the minister of marine, with cooperation of the minister of war, to accomplish a considerable reduction in the bases which we were keeping up in Beirut and to put transports out of commission.

(*c*) *Baltic division.*—This constitutes three dispatch boats with full complements. If and when the European political situation improves, it will be possible to recall this division to France.

NAVAL FORCES DISTANT FROM EUROPE.

The naval division in the extreme east will be reduced by the return to France of the *Montcalm;* the ex-German cruiser *Colmar* will be the only large man-of-war flying the French flag in these waters. Thanks to this reduction, however, the minister of marine is able to provide more fully for the naval division in the Atlantic—two cruisers fully manned and one in reserve. This division, ready for any unexpected mission, will normally be called upon to make long cruises for the purpose of showing our flag in foreign waters. It is the department's intention to send this vessel not only in the

Atlantic, but also in the Indian Ocean and also in the Pacific, where we have not had our naval forces since 1914.

The department looks to the best results from the cruise of this flying division, as much for the training of officers and men as for the military spirit.

NAVAL DISTRICT FLOTILLAS.

We continue to maintain in a state of preservation our patrol and mine-sweeping flotillas. The starvation from which our navy is suffering allows us to man only a few ships, only enough to preserve the traditions among our crews. The others, laid up in groups, have only enough personnel for the preservation of material. This state of affairs can not continue indefinitely without endangering the conservation and the preparation for war of these small vessels which are so useful, as much for the defense of our coasts and the protection of our commercial and military convoys, as for engaging in battle against submarines. But again the exigencies of economy do not permit the armament of our flotillas to assure our quick manning and utilization during the first days of mobilization.

FRANCE.

SEAPLANE CONSTRUCTION.

May, 1923.

The Etablissements Licre et Olivier have received an order for 15 bimotored seaplanes, type *Leo H–13*, one-half of which are to be amphibian. These seaplanes are ordered by the French Government for the French Navy. In addition to this order 12 more are being built, 6 for the Compagnie L'Aeronvale and 6 for the Ligne Aerienne Lateccere.

ITALY.

SUMMARY OF NAVAL PERSONNEL.

May, 1923.

The allowed strength of the Italian Navy by law and for the year 1922–23 is 40,000 enlisted men; this includes 1,150 enlisted men belonging to the naval air forces.

On and after July 1, 1923, the total allowed enlisted strength will be 45,000 men.

On April 1, 1923, the force of allowed 40,000 was 42,501, divided as follows:

Chief petty officers	2,614
Petty officers, first class	820
Petty officers, second class	2,197
Total	5,631
Seamen and ordinary seamen	5,764
Total	11,395

NOTE.—The Italian ratings differ from ours, but the division given is approximately correct with our ratings.

RECRUITS.

Class of 1901	2,915
Class of 1902	15,711
Class of 1903	12,490
Total	31,116
Grand total	42,501

The 42,501 men in the Italian Navy are distributed as follows as of 1st April 1923:

On board ship (approximately 50 per cent)	21,890
On shore billets (approximately 33 per cent)	17,832
At ministry, in prison, awaiting discharge, on extraordinary liberty, convalescent, in hospitals, awaiting trial, at schools	2,779
Total	42,501

NOTE.—That enlisted men are employed at the ministry (our navy department) and as on extraordinary leave—two categories not filled by enlisted men in the United States Navy. Italian naval officers are also allowed enlisted men as "strikers," as they are observed in naval officers' houses in Rome and at navy yards, in officers' clubs, and homes. The naval attachés abroad are also allowed enlisted men as servants.

The enlisted force ashore is employed ashore in the following places:

Genoa.—Administration	109
Coast defenses	2,528
Servants in officers' residences	381
Spezzia.—Navy yard	3,604
Outside of Italy	[1] 352
Awaiting assignment	1,446
On leave	510
Maddalena.—Naval base	943

[1] Probably naval attaché servants included in this category.

Naples	841
Messina.—Coast defenses	200
Naval base	344
Taranto.—Navy yard	1,362
Brindisi.—Naval base	576
Coast defenses	475
Venice.—Navy yard	1,495
Pola.—Navy yard	1,940
Coast defenses	720
Signal stations	375
Aviation forces	1,261
Radiostations	949
Total (ashore)	20,611

6. The enlisted men afloat are divided among the Italian naval vessels as follows:

SHIPS IN FULL OR REDUCED COMMISSION.

Battleships, cruisers, scouts, and flotilla leaders (12 vessels)	8,504
Destroyers and torpedo boats (41 vessels)	2,811
Submarines (43 boats)	1,031
Minor vessels	4,376
Mine sweepers	11
Subchasers	592
Total	17,385

SHIPS IN REDUCED COMMISSION AND RESERVE.

Battleships, cruisers, scouts, and flotilla leaders (15 vessels)	2,450
Destroyers and torpedo boats (79 vessels)	1,112
Minor vessels	943
Total	4,505
Grand total (afloat)	21,890

The complement of the various types of vessels in the Italian Navy is as follows for full complement and reduced commission (armamento, and armamento ridotto):

Type.	Full complement.		Reduced commission.	
	Officers.	Men.	Officers.	Men.
Battleship (Cavour)	35	1,205	9	561
Scout (Quarto)	14	301	3	87
Destroyer (Sirtori)	5	97	2	46
Submarine	5	35	2	24

NOTE.—Complements of auxiliaries can not be obtained, but it is to be noted that out of 21,890 men afloat 4,376 are on "minor vessels" and also to be noted that another 4,505 men are on vessels in "reduced commission or reserve"—i. e., more or less laid up at yards.

Employment.—Attention is invited to the fact that the guarding of naval establishments is done by a special force of the royal carabinieri, a part of the army, and not by enlisted men of the navy. This force is composed of 8 officers and 502 petty officers and men.

Recruiting.—There is no recruiting in the Italian Navy as we know it, as they have the conscription system and call classes when the law authorizes an increase in the enlisted strength of the navy. Since the war they have a large trained force to draw on, and men not subject to call are asked to volunteer; first enlistment for these men is seven years; they hope to get the 5,000 increase in 1923–24 from this class of experienced men. The classes of 1901, 1902, 1903 are now serving.

Naval air force.—The naval air force comprises 1,150 enlisted men, including petty officers. These are a part of the 40,000 allowed by law.

Nature of enlistment.—Conscription is in force in Italian navy, so no recruiting—levies by classes are called—at present classes of 1901, 1902, 1903 serving.

Men not subject to levy are asked to volunteer and as first enlistment are enrolled for seven years; in this way men of long service and experience are retained and also men who have done well during their time with the colors (when drafted).

The ministry is aiming to have 15,000 volunteers of the 45,000 allowed after July 1, 1923, and of the long enlistment, in order to insure some permanence in the enlisted force. The levies, called every one or two years, have been most unsatisfactory and resulted in a constantly shifting personnel.

The Italian Navy has no men under contract; no reserves are employed; no civilian laborers; some coast defenses are manned by navy (see disposition of personnel); semaphore stations are manned by Navy; no coast guard; no mining or salvage corps.

Recruiting duty (levies).—The Italian Navy enlisted personnel is relieved of any call on it for recruiting or, rather, conducting the levies of the various classes called to the colors. The work is done entirely by the corps of "*capitains of the port*" (a corps which has no counterpart in the United States Navy).

Men in training at schools are included in the 40,000 men allowed to the Italian Navy, also men in transit.

Italy has no colonial navy nor any colonial enlisted personnel not included in the 40,000.

Italy has no organized reserve enlisted personnel as such; her only reserve is that of calling men to colors by levy who have had previous experience in her navy.

The Italian Navy has no marines nor any corps corresponding to our Marine Corps.

The total number of commissioned officers on the active list in the Italian Navy as of January 1, 1923, was 2,347, divided as follows:

(A) Line Officers (Line and Engineers).

Line.

Admiral	1
Vice admirals	8
Rear admirals	11
Commodores	11
Captains	52
Commanders	111
Lieutenant commanders	140
Lieutenants	357
Lieutenants (junior grade)	153
Midshipmen	106
Total	950

Engineers.

Lieutenant general	1
Major general	1
Brigadier generals	22
Colonels	8
Lieutenant colonels	20
Majors	48
Captains	159
Lieutenants	76
Lieutenants (junior grade)	32
Total	367
Grand total	1,317

(B) Staff Officers.

Naval constructors.

Lieutenant general	1
Major generals	3
Brigadier general	1
Colonels	7
Lieutenant colonels	12
Majors	22
Captains	35
Lieutenants	13
Cadets	11
Total	105

Medical officers.

Major general	1
Brigadier generals	2
Colonels	9
Lieutenant colonels	24
Majors	43
Captains	66
Lieutenants	9
Total	156

Commissary officers.

Major general	1
Brigadier general	1
Colonels	8
Lieutenant colonels	22
Majors	38
Captains	120
Lieutenants	5
Lieutenants (junior grade)	9
Total	204

Port officers.

Major general	1
Colonels	5
Lieutenant colonels	26
Majors	15
Captains	114
Lieutenants	63
Lieutenants (junior grade)	15
Total	239

Officers of Corpo Reale Equipaggio.

Captains	151
Lieutenants	172
Lieutenants (junior grade)	23
Total	346

SUMMARY.

Line officers (includes engineers)	1,247
Staff officers	1,050
Grand total	2,347

By royal decree No. 135 of January 11, 1923, the officer personnel has been rearranged to the following numbers, but does not become effective at once (gradual eliminations to be adjusted by a special board):

LINE OFFICERS.

Military branch.

Admiral	1
Vice admiral	7
Rear admiral	16
Captains	54
Commanders	100
Lieutenant commanders	150
Lieutenants	430
Lieutenants (junior grade)	270
Midshipmen	270
Total	1,298

Engineers.

Lieutenant general	1
Major general	1
Colonel	7
Lieutenant colonels	7
Majors	42
Captains	145
Lieutenants	100
Cadets at Naval Academy	35
Total	349
Grand total	1,647

NOTE.—Included in this 1,647 officers are the specialist officers as follows:

Gunnery specialists	58
Torperdo specialists	18
Electrical specialists	52
Hydrographical specialists	8
Total	136

STAFF OFFICERS.

Naval constructors.

Lieutenant general	1
Major general	3
Colonel	7
Lieutenant colonel	12
Major	22
Lieutenants	56
Cadets at Naval Academy	10
Total	127

Medical officers.

Major general	1
Colonels	7
Lieutenant colonels	20
Majors	46
Captains	80
Lieutenants	30
Total	184

Pay corps.

Major general	1
Colonels	7
Lieutenant colonels	22
Majors	44
Captains	105
Lieutenants	80
Total	259

Port officers.

Major general	1
Colonels	5
Lieutenant colonels	26
Majors	15
Captains	114
Lieutenants	78
Total	239

CORPO REALE EQUIPAGGIO.

Military branch.

Captains	100
Lieutenants	158
Total	258

Engineer officers.

Captains	22
Lieutenants	6
Total	28

Pay corps.

Captains	19
Lieutenants	30
Total	49

Artificers.

Captains	3
Lieutenants	3
Total	6

Medical corps.

Captains	6
Lieutenants	3
Total	9
Grand total of officers in Corpo Reale Equipaggio	350

SUMMARY OF OFFICERS (NEW ARRANGEMENT).

Line officers (includes engineers)	1,647
Staff officers	1,159
Grand total	2,806

NOTE.—It is to be noted that the new arrangement adds 459 officers to the number as of January 1, 1923.

The reserve officers of the Italian Navy are carried under two categories (reserva navale and officers di complemento). The officers of the " reserva navale " are ex-commissioned officers of the regular navy, those of the " complemento " are merchant officers, ex-merchant officers, and civilians who are enrolled and have shown aptitude for naval matters.

In the " reserva navale " there are 1,469 officers, as follows:

Rank.	Military branch.	Engineers.	Medical.	Pay Corps.	Naval constructors.	Corpo reale equippaggio.
Vice admiral or corresponding	38	3	3	3	4	.....
Rear admiral or corresponding	64	7	6	6	5	.....
Commodore or corresponding	17	10	5	2	2	.....
Captain or corresponding	82	15	16	12	17	.....
Commander or corresponding	138	34	38	41	15	.....
Lieutenant commander or corresponding	91	179	48	50	21	.....
Lieutenant or corresponding	185	74	23	33	2	29
Lieutenant (j. g.) or corresponding	.....	9	3	3	.....	100
Midshipmen or corresponding	.....	2	.....	2	.....	134

In the " officers di complemento " there are 3,044 officers as follows:

Rank.	Military branch.	Engineers.	Naval constructors.	Medical.	Commissary.	Corpo reale equippaggio.
Commander or corresponding	3	.....	.....	.....	.....	.....
Lieutenant commander or corresponding	.....	8	2	3	.....	.....
Lieutenant or corresponding	432	219	32	82	61	2
Lieutenant (j. g.) or corresponding	640	322	28	42	87	24
Midshipmen or corresponding	402	593	4	5	22	28

NOTE.—Besides the above there are three ordnance specialists enrolled, one lieutenant commander, one lieutenant, and one midshipman.

Very few officers of Reserva Navale are on active duty.

No officers of Complemento are on active duty.

Chaplains, professors, civil engineers.—A recent decree has established five chaplains and five reserve chaplains; the first five are assigned to the commander in chief of the naval forces, the others to naval academy, to votive chapel at Pola, and to naval hospitals.

The work done by our civil engineer officers and professors of mathematics is done by a civilian personnel under the ministry of marine. This list is very extensive and includes specialists in the following categories and in following numbers:

Professors and teachers (naval academy and nautical schools)	176
Specialists in radio	1
Hydrographic office	6
Specialists in electricity	5
Specialists in ordnance	67

Specialists in pharmacy	10
Specialists in naval construction	138
Military engineers and assistants for navy	43
Designers for naval construction	117
Designers for naval ordnance	72
Accounting specialists for navy yards	46
Storekeepers and pay clerks for navy yards and stations	15
File clerks at navy yards	415
Clerks for port captain's corps	95
Administrative specialists in ministry of marine	15
Secretaries in ministry of marine	59
Accounting specialists in ministry of marine	26
File clerks in ministry of marine	138
Grand total	1,444

AUSTRIA.

NEW DEVICE FOR PILOTING.

May, 1923.

The device described below was seen during a recent short visit to Vienna. In regard to the last paragraph, the inventor, Dr. Hans Thirring, who is, incidentally, one of the leading men in physics in Austria, stated that he doubted whether they could be put into successful operation under water. The reliability is unquestioned—by simply standing in a ray of light for a short period of time, the alarm is easily rung.

THE SELENIUM CONTROLLER.

[An automatic controlling apparatus for ships' passages through channels.]

PRINCIPLE OF THE DEVICE.

A narrow pencil of light rays is directed across the channel (or the harbor's entrance, or whatever is wished to be controlled), acting on a light sensitive selenium cell. When a passing vessel interrupts the light rays, the selenium cell works on an electric relay, putting an alarm signal or a registering device into action.

BRIEF DESCRIPTION OF APPARATUS.

The apparatus consists chiefly of a small searchlight and a receiving device containing a convex lens and a light-sensitive selenium cell coupled with a voltage battery, an amplifier, and a relay. Searchlight and receiver are placed on either bank of the channel in such a way that the searchlight sends a narrow beam of light rays across the channel, hitting the receiver in which the rays are

focused on the selenium cell. The rays of the searchlight are made intermittent by a rotating disk with a frequency of about 500 per second. The intermittent illumination on the selenium cell produces an alternate current which is cut off instantly as soon as a passing vessel interrupts the light rays. By a suitable connection the relay is closed when the alternate current is cut off, so that any interruption of the rays of the searchlight may be accompanied by every action which an electric relay can produce. An alarm shot may be given off, for instance, or a bell rung, or a score be made on a registering paper slip.

USE OF APPARATUS.

The selenium controller acts as well during daylight as in the night. It can be used as a protection of channels or narrow passages against the invasion of warships in the night or as a means of registering all passages of any vessels through the entrance of a harbor. It may be used as well to prevent smuggling on rivers in dark nights. Furthermore, quite apart from the maritime uses, the selenium controller can be employed ashore to prevent burglary on any house or public building. In that case the path of rays must be directed all around the house by means of small mirrors. If a person approaching the house from any side crosses the light rays, the alarm signal is put into action. Another possible use would be the automatic registration of the speed of motor cars. Two selenium controllers placed at a distance of about 100 yards from each other on a country road would act as a trap against motor drivers going with higher speed than permissible.

LIMITS OF THE EMPLOYMENT OF THE CONTROLLER.

The distance which may be covered by the selenium controller depends on the strength of the searchlight. With a small 50 candlepower incandescent lamp (diameter of the bulb about 2 inches) placed in the focus of a 15-inch concave mirror a channel of 3 miles breadth might be easily controlled. The use of small light sources is advantageous, because their pencil of rays is invisible to a distant observer unless he is just crossing the path of rays. With the ordinary big navy searchlights distances up to about 15 miles may be covered.

The device does not act in dense fog.

When the searchlight and the receiver are placed in water-tight chambers below the surface of the water the controller may be used against submarines. In that case, however, the range of the apparatus is much smaller, owing to the absorption of light rays in water.

BRAZIL.

PROPOSED AVIATION FACTORY.

April, 1923.

Two German Junker planes have arrived in Guiana. It is understood that their orders require them to proceed to Brazil.

The minister of marine has evidently every intention of proceeding with plans to establish an airplane factory on an island in the harbor of Rio de Janeiro. The contract for this factory has not yet been awarded to the German Junker Co., but it is understood that it will be awarded shortly either to the Junker company or to the Curtiss company. The representative of the Curtiss company, who has been in the United States for some time, is now en route to Brazil for the purpose of bidding upon this contract.

Bernardes, the President of Brazil, is a native of Minas Geraes, and is very friendly with the present President of that State. The President of Minas Geraes has two warm friends who, though Brazilian born, are of German descent, and one of whom is named Weiss. These two men wrote to the Junker company in Germany and informed them that they consider it possible to obtain a contract for aviation material here, and they were appointed agents of that company. Through their friendship with the President of Minas Geraes and his influence with the President of Brazil, they are exerting pressure on the Government to award this contract to the Junker company. They will probably succeed in this unless an offer is made by the Curtiss company to divide the profits with them.

The situation is further complicated by the fact that the Curtiss company is not any too popular with the Government, due to the fact that in a previous contract they did not furnish complete equipment with the planes as promised. Then, too, the Brazilians believe that the Junker planes are in every way equal to the American planes. The idea of building a factory and manufacturing its own planes appeals strongly to the Government.

The equipment at present available for repairing the navy planes is entirely inadequate. Such workmen as are available are competent to handle the repair work on the planes, but they are few in number and consequently very slow.

As to the aerial mail service, the final contract relative to this has not been made, and it is not certain whether it will be made upon a commercial or naval basis.

BRAZIL.

PROPOSED FLEET MOVEMENTS.

May, 1923.

The minister of marine proposes that the entire fleet, minus the submarines, leave Rio de Janeiro on 27 June, to be absent until 1 October. The fleet will proceed first to Bahia and base there until about the middle of August. It will then proceed to Ilha Grande (60 miles south of Rio) and will use this harbor as a base for exercises. It is proposed to have both short-range and long-range target practice at Ilha Grande during the month of September.

BRAZIL.

VIEWS AS TO NEW NAVAL CONSTRUCTION.

May, 1923.

Rear Admiral Souza e Silva gave on May 12 the following interview to "La Nacion," leading newspaper of Buenos Aires, which was republished in the "Jornal do Commercio" on May 13. Since the policy of the Brazilian Government regarding new construction will undoubtedly be considerably influenced by Souza e Silva, this interview is quoted in detail.

The plan presented by our minister of marine is not a new naval program; it is in reality the program of 1906 that was observed up to 1914 and which was interrupted by financial motives and as a consequence of the war. Now, nine years after, he treats of continuing it with the modifications indicated by the experience of the late war.

As is known, the naval program of 1906 covered the construction of three battleships—dreadnaughts—beyond that which should be constructed by popular subscription—the *Riachuelo*—15 destroyers, 3 cruisers, 3 submarines, and a mine ship. Of these ships there have only been bought 2 battleships—the *São Paulo* and the *Minas Geraes*, 10 destroyers, 2 small cruisers, and 3 submarines. The third battleship was sold to Turkey. It had 32,000 tons and was called the *Rio de Janeiro*.

It is actually the thought to have constructed five destroyers which we lack, the cruiser that has been under project for 17 years, and substitute the battleship that was sold in 1914 and over which already should wave the Brazilian flag.

Substitute the three submarines now in existence 11 years and which do not serve even for instruction.

As for mine chasers and mine layers it is indisputable their defensive utility and service for the indispensable instruction of the personnel in this class of naval defense.

I believe that construction should be initiated for small ships, which are more necessary in view of the fact that the destroyers which we possess are actually 14 years in service and are insufficient for the simple service of in-

struction and normal commissions. The dreadnaught is destined to substitute the other and, as is natural, should not be inferior to it.

In this question of naval protection the defense can only be efficient if they oppose ships of equal force that attack us. If we construct ships of inferior power, it is an acceptation of anticipated defeat.

It is clear that we can not aspire to possess the number of ships for combat of the dreadnaught type equal or close to the ships possessed by larger navies, but for the purpose of defense exclusively this is not necessary. It is enough to possess a group of four or five ships for combat around which other ships of combat can have aid and assistance in action, obliging the attacker to a force much greater which a number of ships would make necessary, even with two or three larger ships more than those of ours, and under such a situation it is not improbable that the enemy would attempt to attack.

Beyond this a combat ship in a situation of this kind should not necessarily have the dimensions of those attacking. It is sufficient to have a defensive force equal in number of cannons with which can be reduced their velocity and radius of action.

I believe that this is the ideal type of ship for Brazil, Argentina, and Chile, because such boats possess the characteristics for proper defense, without losing anything by the fact of having to operate far from their bases and home waters.

I believe that the satisfactory solution of naval armament is very possible. Technical knowledge is no more or less than an instrument of politics. What must be done is to conciliate the two activities in such a way as to obtain a good navy as an instrument of safeguard, which will realize not only peace in the continent but also guarantee the inviolability of each of the States of all the continent; and as is seen, the naval program of Brazil is old and does not represent any aggressive intention or lack of confidence of Argentina or any other country. It is no more than a modern development of an old program, an indispensable measure for our safety, and fulfilling of our duty as a nation who wishes to be always in a position to maintain its politics on a solid, continental basis.

CHINA.

CHANGING ATTITUDE OF THE CHINESE TOWARD FOREIGNERS.

April, 1923.

From the Report of an Important United States Official.

In a discussion of this subject there are, to my mind, four factors to be considered. The first factor is the increased knowledge which the Chinese have of conditions abroad. Well-informed Chinese have told me plainly that the Chinese military leaders, knowing the unwillingness of foreign countries to embark on fresh military enterprises, and knowing also the jealousies which exist among the different countries, do not to-day have the same fear of foreign nations or of the danger of foreign control they once had. Again, the Chinese appear to have lost some of the respect which they formerly had for the western nations. The European war and its aftermath, especially the collapse of Russia, have made the Chinese

less inclined than hitherto to regard the west as essentially superior. This may not be flattering to the pride of foreigners, but it is none the less a fact. However, on the other hand, this does not mean that the Chinese people are more antiforeign than hitherto. They simply know foreigners better and regard them with more discrimination. They know the virtues of foreigners and admire them, but they also know their weaknesses, and in forming a judgment of foreigners the Chinese simply weigh the one against the other. Though there is an absence of unfriendliness on the part of the Chinese officials and people toward foreigners, it is apparent that foreigners and foreign officials receive much less consideration than has been the case for many years past. Foreigners do not enjoy the prestige they once did; they are now being treated more like equals.

The second factor is the rise of nationalism in China. This spirit has been gradually growing, but its most striking development has been since the Peace Conference at Paris in 1919. The decision which at that time seemed to award Shantung Province to Japan stirred deeply the Chinese people, especially the educated classes. On many sides there are now further indications of China's desire to control her own country without foreign collaboration or assistance (dictation). This is a spirit with which one can sympathize, although the method of its expression may sometimes be regrettable. However, this growth of nationalism does not necessarily betoken an antiforeign spirit, although at times its expression may seem to have somewhat that appearance.

The commissioners of foreign affairs through instructions from the ministry of foreign affairs, and the commissioners of finance and the chiefs of likin stations under instructions from the ministry of finance are more inclined than they were formerly, in cases involving foreign interests, to interpret the treaties according to the strict letter. It appears incorrect to assert that this is an evidence of unfriendliness toward foreigners; it may rather be taken as an attempt on the part of the officials to protect Chinese interests more assiduously and perhaps also as an indication of a better knowledge of the treaties on the part of the authorities; the latter are more active than formerly in conserving Chinese rights vis-à-vis foreigners.

As a general rule, the Chinese authorities have been fairly satisfactory in acting on my complaints concerning bandit activities. Honan, in particular, is overrun by bandits, and no measures for their suppression have been undertaken on a large scale, but in special areas complained of there is usually some effort made to improve conditions. Also, the officials almost without exception throughout the district have shown commendable activity in the

prosecution of defaulting debtors of American firms and in protection cases generally brought to their attention by me. The authorities of Kiangsi Province persist in exhibiting what is generally regarded as an antiforeign attitude; this unfriendliness toward foreigners is, however, so far as I have been able to discern, not shared by the populace.

The third factor is the lawlessness which is now so widespread in China. Foreigners have suffered much, but the Chinese have suffered far more. The Chinese Government should be held strictly accountable for its failure to protect adequately foreign life and property; but, generally speaking, the foreigners suffer not because of an antiforeign feeling as such on the part of the people, but rather because the general spirit of lawlessness which is abroad necessarily involves suffering for everyone who is in a position to be affected by it.

Since the establishment of the republican form of government there has been almost continuous civil war or brigandage in some one or other of the Provinces; this is especially true of Honan and Shensi Provinces in this district, where there has been constant unrest since 1912. In 1913 and 1914 there was the White Wolf, and in 1922 there was Lao Yang-jen. The brigands are professional robbers or disbanded soldiers and are well armed and organized. They bring every possible suffering on the inhabitants of the cities and towns as well as the country districts. The brigands are desperate, and their continued depredations have caused the inhabitants to become more desperate than the brigands themselves. The people have become so desperate that they are resigned to die along with their oppressors. As showing the desperate condition of the people of Honan, the following telegram, dated March 9, 1923, addressed to the military governor of Honan by Gen. Tsao Kun, at Paotingfu, is of interest:

A report by a detective states: "In the district about Hsuchow, Honan, there is a new organization called the Red Lance Society. Every person joining the society carries a long lance with a red tuft at the end. After a training of 130 days each member is believed to become invulnerable to rifle or cannon fire. The professed object of the society is to oppose the brigands, and as a result many persons are joining the society. A careful investigation shows that it is like the Taipings in the middle of the last century. The new society originated at Yenchow and Tsaochow in Shantung Province. If it is not suppressed at once its branches will spread and it will become powerful. You are requested to suppress the society."

From this statement one can gain an idea as to the desperate attitude of the people of Honan toward the brigands and disbanded soldiers who have become brigands. In my opinion this popular feeling is not directed toward foreigners, and it is interesting to note that Gen. Tsao Kun likens the new society to the Taipings, who were not antiforeign, rather than to the Boxers, who were anti-

foreign. An American missionary in Honan Province writes me "the people say that never since the Taipings have conditions been so bad."

There is, however, some indication that Chinese officials have deliberately attempted to blame foreigners for conditions which are clearly due to their own misrule. An instance of this is the telegram sent by the civil governor of Honan to the district magistrates in that Province, quoting a telegram by Gen. Wu Pei-fu, wherein the latter states that one reason why some of the foreigners were captured by the brigands last year was that they had been on too familiar terms with them. This seems a strange reason for incurring captivity. Furthermore, General Wu's telegram is so worded as to absolve the local officials from responsibility for the protection of those foreigners who "have become endangered through their private relations with the brigands."

I should add that the investigation made by me of this accusation of intimacy between foreigners in Honan and the brigands shows it to be absolutely unfounded, at least so far as American residents are concerned. What happened in Honan last summer and autumn, combined with General Wu's attitude since then, shows a spirit of disregard for the rights of foreigners which can not be too strongly condemned. However, again, this does not signify that the people themselves are at all antiforeign in the sense of the Boxer uprising in 1900.

The fourth factor to be considered is the influence of the labor movement now being organized in China. This movement seems to be fostered largely by agitators who do not themselves belong to the ranks of labor. It is in a certain sense an outworking of the effects of the Russian revolution. That efforts should be made to improve the conditions of labor in China is greatly to be desired, but it certainly can not be said that recent labor agitation in China has been altogether wisely directed. Trouble has been stirred up without sufficient cause, and harm has resulted to the legitimate interests of both employers and workers. As is stated above, the labor movement in China seems to be largely the creation of persons who are not themselves laborers. Their purpose is apparently to set labor against capital. Because a certain portion of the capital that is invested in China is in foreign hands, this inevitably means that to some extent the labor movement has taken an antiforeign turn. However, taking the country as a whole, Chinese employers have probably been affected far more than foreigners, thus showing that the labor movement in itself is not antiforeign.

Several occurrences in the local labor situation tend to confirm the correctness of the above assertion. Recently laborers in two or three

of the British factories at Hankow have gone on strikes. These strikes were directed at the head coolies or compradores of the concerns, who were charged with being harsh in their treatment of the employees; the strikes were not aimed against the foreign staffs or the concerns themselves; and it was only interference on the part of the foreign managers in behalf of their compradores and head coolies that caused the strikers to turn upon the firms. At the time a letter was received by me from the secretary of the Workmen's Union at Hankow announcing the union's intention to institute a boycott of British goods. However, an amicable adjustment of the differences between the laborers and the employers was effected, following which the anti-British feeling on the part of the strikers subsided; the unfriendly feeling toward these British factories at Hankow, which arose at the time of the strikes and continued for only a short period, was not directed at all British firms; moreover, foreign firms of other nationalities were not affected. Therefore the attitude can not be termed antiforeign; the laborers employed by the few British firms involved conducted the strikes; the merchants, students, and other classes did not participate therein.

There is no pronounced antiforeign feeling in this district. The governors and the heads of bureaus of Hupeh, Honan, Shensi, and Kansu are, as a whole, not unfriendly disposed toward foreign interests. Moreover, as is stated above, the inhabitants of these Provinces have so far evinced no hostile or unfriendly feeling toward foreigners.

The anti-Japanese movement and the attendant boycott of Japanese goods, which has been in existence for the past several years, had gradually subsided and was in a quiescent state during 1922. Now, however, a feeling against the Japanese seems to be arising again. As a consequence of the action on the part of the Chinese Government in asking the Japanese Government to hold a joint conference to consider the cancellation of the twenty-one demands and the retrocession of the Liaotung Peninsula on the expiration of the original lease, and the prompt rejection by the Japanese Government of the proposal, demonstrations are being held in the larger centers throughout China, including Hankow, against the attitude of the Japanese Government. In placards issued in connection with the local demonstrations a boycott of Japanese goods is advocated. This movement may likely make some headway.

If China could establish a truly representative and constitutional government in place of the arbitrary rule of the militarists, most of the troubles which now beset Chinese and foreigners alike in China would disappear. A strong government, legally constituted, would be in a position to maintain order, to protect the rights of

both Chinees and foreigners, and to deal effectively with the problems presented by the labor movement with advantage to both employers and employees. Peace would stimulate trade, and, if the country were peaceful and prosperous, in my opinion there would be no evidence of an antiforeign feeling, save in so far as this might be due to China's desire to control her own country, a desire with which, in its proper sense foreigners sympathize.

In my opinion the various concessions to China made recently by the treaty powers and the discussion of the abolition of extraterritoriality are received favorably and even with appreciation by the Chinese of this district. It is understood that the Chinese Government is making preparations for the investigation and study by the International Commission of China's judicial system looking toward the relinquishment of extraterritoriality, but the merchants are, as a rule, indifferent as to the outcome. The inefficient operation of the Chinese judiciary is well known, and the Chinese people are dissatisfied therewith. It seems safe to assert that the leaders in official and educational circles in this district will welcome the meeting of the commission; but these leaders as well as those in the mercantile community would be more interested in knowing that civil war is over, brigandage suppressed, and peace and order restored. I am confident that the meeting of the commission will not adversely affect the attitude of the Chinese toward foreign residents; on the contrary, the gathering will be welcomed by the better classes, as the abolition of extraterritoriality has long been sought by the Chinese Government as the removal of a national disgrace. Many of the merchants, bankers, and industrialists, as well as the officials in disfavor, would be reluctant to see the foreign settlements handed over to Chinese control. On account of the disturbed condition of the country—civil war in the Provinces of Hupeh, Szechuan, Kiangsi, Fukien, Kwantung, Kwangsi, and Kweichow, and brigandage in Honan, Anhui, and Shantung—these classes have come to consider the foreign concessions as places of safety; therein they seek foreign protection from the depredations of both the military and the brigands.

The financial problem is the most difficult one confronting the Chinese Government at present; the chaotic state of the finances is chiefly due to the large numbers of soldiers maintained by the military commanders solely for use in gratifying their personal ambitions. Militarism is the greatest deterrent to good government and progress in China; it is the cause of the civil strife; it consumes by far the bulk of the national revenue; it has depleted the national and provincial treasuries, ruined industrial enterprises, and retarded commerce and trade. There is a growing popular demand for the abolition of the military governorships. The masses are

extremely dissatisfied with military misrule as is exemplified in the arbitrary exaction of new heavy taxes and forced loans. The Chinese mind is inflamed by the constantly recurring statements in the vernacular and foreign press describing the baneful political conditions. Secret societies are becoming more active, and the returned students from Japan, the United States, and Europe are ceaseless in their agitation for better government. Another cause of unrest is the successive famine during recent years in Honan, Shensi, and Kansu in this consular district. The tuchuns and tulis as a rule disregard the popular dissatisfaction and continue their misgovernment at will. This being the voluntary attitude of the military leaders toward the people, whom they do not especially fear, they do not care enough about the situation to bother to divert upon foreigners or any particular class of Chinese the animosity existing against them. The military officials assume full responsibility for their misrule. I can discern no evidence of an attempt by the military in this district to divert public feeling at their misgovernment and misdeeds upon foreigners.

CHINA.

PROSPECTS OF WAR BETWEEN LEADING FACTIONS.

April, 1923.

Whether there will be a fight between Chang Tso Lin, of Mukden, and Wu Pei Fu, of Chihli, in the near future or sometime this summer no one at present knows. It is certain that the Chihli party are acquiring supplies of munitions and provisions as rapidly as they can, which looks like war, but as Chang Tso Lin steadily denies he intends a predatory expedition inside the Great Wall at Shanhaikuan, and as Wu would certainly meet defeat if he attacked Chang in the Mukden territory, it would seem unlikely either dares to begin the fray.

Chang has plenty of money, while Wu has great difficulty in keeping his men paid. Chang's territory is kept in pretty good order, while in Wu's realm bandits abound in many sections. Foreign opinion here, which is, however, often not very intelligent upon Chinese matters, is about equally divided as to whether or not there will be a fight between these two parties this summer. While the leaders hate each other cordially, their men have no reason to fight, and there is no principle of patriotism involved with which either leader could inspire his troops.

CHILE.

ESTABLISHMENT OF NAVAL AVIATION AS A SEPARATE BRANCH.

April, 1923.

After a long campaign, the Chilean Navy has at last succeeded in detaching itself from any connection with the so-called separate bureau of aeronautics.

From now on, the naval aviation will function and be administered in a similar manner to that of our own service. As has been previously reported, up to this time Chile has been following the English system and has had practically a separate air ministry. This scheme has not worked satisfactorily nor efficiently, but in spite of a great deal of opposition the navy has at last freed itself from what might be called its entangling alliance with the bureau of aeronautics.

CHILE.

MISCELLANEOUS NAVAL NOTES.

May, 1923.

Two young lieutenants of the Chilean Navy have recently been ordered to England to embark on board designated ships of the Royal Navy, for training and instruction purposes.

A number of the senior officers of the Chilean Navy were trained in the British service, but for some years up to the present the custom of sending young officers to the British Navy had been abandoned. The revival of this custom is probably due to the efforts of Agustin Edwards, Chilean Minister in England, who has recently arrived in the country.

GERMANY.

CERTAIN IMPORTANT TECHNICAL DEVELOPMENTS BY THE NAVY.

March, 1923.

The following technical developments which appear to be of the greatest importance for naval use are listed herewith. All of these reports have been forwarded to the technical bureaus concerned and have received consideration by them. In a number of instances, however, developments appear to be so important as to warrant bringing the matter to the attention of the personnel afloat in addition to the interested bureaus in the department.

It is particularly desirable to emphasize this point. Though many of these developments can not be adopted to our own service owing to cost and changing in material involved, nevertheless *the Germans are selling these devices to a number of other nations, notably the Japanese.* Under these circumstances it is believed that the officer personnel of the United States Navy should be sufficiently informed of these developments so that they will know what devices other navies may be expected to put in use in time of war.

(1) ELECTRIC TORPEDOES (TRACKLESS).

This torpedo was developed by the Germans during the war to meet the needs of the submarine service, since the convoy system had materially reduced the efficiency of the German submarines. The torpedo consists essentially of a storage battery which is capable of discharging the requisite necessary energy for driving electric propulsion motors at a very high rate. A test conducted in the summer of 1918 by the German Admiralty Torpedo Commission resulted in the following results:

Size of torpedo	21 inches (approximately)
Maximum effective range	1,500 meters
Speed	25 to 27 knots

This torpedo was fitted with an excellent depth regulator permitting torpedoes to be run at a depth of one-half meter below surface. The torpedo was absolutely trackless. The design and construction of this torpedo was brought out for the needs of the submarine and owing to the limitations in diameter of the submarine torpedo tubes necessarily of short range. Manufacturers claim to be able to turn out torpedoes with range of 10,000 yards provided diameter is increased to 25 inches.

The extraordinary advantages gained by a fleet possessing such torpedoes are apparent.

(2) DOUBLE ANCHOR MINE.

The latest German mine development consisting of a double anchor device was acquired by the Germans from the Russian mine experts after the conclusion of the peace treaty between Russia and Germany. This device was brought out to counteract the mine-sweeping devices of the British, which were becoming more and more efficient and which were effectively reducing the results obtained by German mine layers. This mine consists essentially of a mine case, secondary anchor, which is a hollow casting containing necessary regulating and clock work mechanism and a main anchor containing the usual German regulating devices, together with 250 meters of mine cable.

When the mine is dropped all three parts sink rapidly to the bottom. The mine case together with the auxiliary anchor then rise to the proper depth below the surface for which it has been set. In case the mine cable is cut or a strain is put upon the cable the mechanism of the auxiliary anchor forces the latter from the mine case for a short distance and permits same to be filled with water. This causes the mine case and secondary anchor to sink rapidly to the bottom without coming to the surface. After a predetermined time, which is set by the clock mechanism time of the auxiliary anchor, the mine case rises and assumes its former position, being anchored to the bottom by means of the auxiliary anchor. The clock mechanism can be so regulated that the mine case is released by the secondary anchor at any time from 10 minutes to 48 hours after being set.

This mine was not used at the front, as the test of the Admiralty Mine Commission did not submit their report until September, 1918. Production was started, but mines were not issued to the German Navy, as the revolution interrupted.

(3) STEREOSCOPIC RANGE FINDER.

This range finder was developed by Zeiss some years before the war and was perfected for use in the German Navy. Construction of the same was held secret. The following advantages are claimed for this type of range finder:

(*a*) Certain amount of vibration assists the accuracy of the resultant ranges.

(*b*) Eye strain considerably reduced as total light is divided between two eyes.

(*c*) Ranges can be obtained provided any portion of target is visible. No vertical lines are recalled as in the coincidence range finder. Accurate observations can be taken under conditions of low visibility and when target is almost completely obscured by smoke.

(*d*) Approximate ranges can be taken on flash of guns when no part of ship is visible.

(*e*) Greater accuracy obtainable with this type of range finder for antiaircraft purposes. This is practically the only type of range finder, with self-contained base, which can be used against fast moving airplanes.

(*f*) Permits gunnery officer or range finder observer to check spotter's estimates as stereoscopic vision permits the exact determination of relative location of target.

The German Navy's training requirements were eight weeks. Personnel was required to have two normal eyes, otherwise no special qualifications necessary. It is interesting to note that the German Army had not used the stereoscopic range finder, but were

forced to adopt same towards the close of the war as the only type that could be used for antiaircraft work.

It has been conclusively proven that the German's ability to "get on" quickly with the salvos was due largely to this stereoscopic range finder.

(4) DELAYED ACTION BASE FUSE.

This device was developed by the Germans prior to the war and was used most effectively in the Battle of Jutland. It consists essentially of fulminate of mercury primer which is detonated on impact with the armor plate. The flame passage from the primer to the burster is a small spiral passage so calculated that the length of time for the passage of the flame from the primer to the burster would give the necessary delay required to cause the shell to burst from 20 to 30 feet behind the armor after penetration. Calculations were made for German armor and German shells and might necessitate modification for armor of greater resistance.

(5) GERMAN HIGH EXPLOSIVES—HEXANITRO-DYPTHALEMINE.

This explosive was developed by the Germans to replace T. N. T. or to be used in conjunction with it in their mines, torpedoes, and naval shell. A comparative test in Germany showed 25 per cent greater explosive effect than T. N. T.

This explosive is developed from dyestuffs and the latter can be easily converted into hexanitro by two simple processes. Thus a nation possessing the German dyestuff secrets can always readily command a large supply of this explosive. When mixed with a small percentage of paraffin or wax, it can not be detonated by shock. When used in conjunction with T. N. T. a very high density of loading is obtained in the armor piercing and high explosive shell (1.62). It is reasonable to expect that any nation possessing the German dyestuff manufacturing secrets will be in a position to turn out large quantities of this explosive in time of war.

(6) DISTANT CONTROL OF GUNS ABOARD SHIP.

This development was brought out experimentally during the war and tried out in target practice by the Germans on the S. M. S. *Karlsruhe*. The results were highly satisfactory, and the installations were being made aboard battle cruisers for experimental firing at the conclusion of the war. The device consists essentially of the Siemens-Halske synchronous motors applied directly to the broadside battery. A large motor was used for the approximate elevation, while a smaller quarter-horsepower motor was used for the final accurate setting. The operation of these motors was controlled by a

tilting mirror in the gunnery officer's directorscope. The motors themselves are operated through electrical relays located at each gun. This system resulted in a very slight lag in time of the motors behind the position of the controlling mirror. In order to overcome the inaccuracy due to this time lag the salvos were fired at the top of the roll when the angular velocity was least, and a slight pause was made in the movement of the mirror to permit the battery to "run in" to synchronism. The gunnery officer's eyepiece in the periscope had a short horizontal line scribed slightly below the horizontal cross wires. The distance between these two horizontal lines was so calculated that the effects of the time lag would be overcome, provided the gunnery officer fired as the lower horizontal line passed the horizon. Target practice results held by the *Karlsruhe* showed excellent results, the dispersion obtained being attributed largely to the insecure gun supports and foundations. In the system applied to turret guns the motors were placed by electromagnets, which attributed directly on the gun-elevating gear.

(7) DAMAGE CONTROL FOR CAPITAL SHIPS.

German ships were constructed with elaborate compartmentation with a view to localizing damage due to shell fire, mines, and torpedoes. In addition to this a very elaborate system of drainage and flooding compartments was worked out to permit the first lieutenant to keep the vessel as nearly as possible on an even keel and to localize and control the damage. Each ship was furnished with two books giving complete descriptions of drainage system, flooding system, and stability calculations for all conditions of trim and draft. Communication systems were worked out to permit the first lieutenant to receive prompt reports from all over the ship of damage and action, as well as leaks and fire. The first lieutenant was assisted in his duties by the first assistant engineer officer and the carpenter's gang. In action the engineer officer also furnished personnel for this purpose.

Elaborate and carefully planned drills were held in time of peace to perfect the system and thoroughly train the personnel. The importance of this training was placed ahead of gunnery in the German Navy.

As the result of this carefully worked-out system and the long training of the personnel, the Germans were enabled to save a large number of their ships at the Battle of Jutland, although severely damaged by gunfire and mines. The two capital ships lost by the Germans, the *Kormoran* and the *Lutzow*, were due to torpedoes, the latter being torpedoed by the Germans themselves to prevent her from falling into the hands of the British.

(8) ELECTRIC MINE CABLE CUTTING DEVICE.

Toward the end of the war this device was developed by the Germans for cutting submarine mine cables by means of electric energy from the main battery. The device consists of two pairs of electrodes located one on each bow of the submarine. From each pair of electrodes a circuit passed through an electromagnetic relay. Normally a small alternating current derived from the radiomotor generator passed across each pair of electrodes. Any contact with a conductor disturbed the balance of the magnetic relay, this caused the main switch to operate throwing the entire battery current from the submarine's main battery across these electrodes. Circuit breakers were fitted in the battery circuit which could be set to interrupt this " short " after a given interval of time, varying from one to five seconds. In this manner the battery was protected against a " short " of excessive duration. The small switch in the conning tower permitted the commanding officer to interrupt this short, provided, in his opinion, the electrical system was not functioning properly. Experiments conducted in the German Navy with this device showed that the ordinary mine cable could be cut in a very short time, averaging from one-tenth to one-half second, with very slight expenditure of electrical current.

The same system was developed further for electric cutting of submarine nets. The necessity for this was brought about by the British practice of attaching mines to the submarine nets, which rendered the mechanical net-cutting device practically inoperative, as the mine would be exploded before the mechanical device was able to cut through.

GERMANY.

TEST OF SEAPLANE FOR U. S. NAVY.

May, 1923.

On May 3, 1923, a series of tests were carried out by the Dornier Co. to determine the maximum weight with which the seaplane ordered by the United States Navy could rise from the water. The type is that known as Libelle (Dragonfly), is provided with an 80-horsepower Siemens-Halske motor, and is designed to carry normally three persons. It is of the usual Dornier metal construction with trailing edge and vertical fin covered with fabric. The motor is a 7-cylinder, radial type, mounted above the plane. Former Libelle types were provided with a 60-horsepower Siemens-Halske motor, radial type, of five cylinders.

In the first test made the following weights were carried (Useful):

Sand	185 kilograms.
Fuel	20 kilograms.
Oil	5 kilograms.
Personnel	130 kilograms.
Total weight	[1] 340 kilograms.

With this weight the plane rose from the water in a period of 1 minute (time was taken from the instant when full power was applied, until the float was entirely clear of the water). A distance of from 500 to 600 meters on the water was required.

In the second test 20 kilograms of sand were added, the other weights remaining the same. The total weight was then 360 kilograms, or approximately 792 pounds. With this weight the plane was unable to rise from the water.

In the third test the total weight carried in the second test was decreased by one 10-kilogram sack of sand, making the total weight 350 kilograms, or approximately 770 pounds. The plane with this weight was unable to rise from the water.

For the fourth test the sand was removed and was replaced by personnel of light weight. The weights carried on this test were the following:

Personnel (pilot and 3 persons)	274 kilograms.
Fuel	15 kilograms.
Oil	4 kilograms.
Total (approximately 645 pounds)	293 kilograms.

With this weight the plane rose from the water in a period of 30 seconds. A distance of from 300 to 400 meters on the water was required.

In the fifth test one more passenger was carried (the passengers on this test were all small boys). The weights were as follows:

Personnel (pilot and 4 persons)	307 kilograms.
Fuel	8 kilograms.
Oil	3 kilograms.
Total (approximately 700 pounds)	318 kilograms.

With this weight the plane rose from the water in a period of 50 seconds. It traveled a distance of approximately 500 meters on the water before rising.

No other performance tests were attempted. Inasmuch as the plane is designed for a normal capacity of three persons, with an average total weight of about 220 kilograms (approximately 485 pounds), the Dornier Co. is highly satisfied with the results of the

[1] Pilot and one passenger, approximately 750 pounds.

tests and considers that the performance is well above that for which the plane was designed.

SPAIN.

LIGHT CRUISER TO BE CONSTRUCTED.

May, 1923.

Plans for the construction of the Spanish light cruiser *Almirante-Cervera* (3,850 tons) have been placed in the hands of the shipbuilders at Ferrol preparatory to laying of keel.

SPAIN.

OPERATIONS IN SPANISH MOROCCO.

June, 1923.

With the renewel of operations on the part of the Moors in the Spanish zone of Morocco, the Spaniards have suffered another military defeat. Apparently the decision of the Spanish Government to deal with the rebels by civil processes rather than military operations has been interpreted by the Moors as weakness, and as a result they have taken to arms. Large numbers are reported as flocking to the aid of the Riffian leader, Abdul Krim, who in 1921 inflicted such a crushing defeat on the Spanish troops.

Operations have taken place in the vicinity of Tiziazzi, where the Spanish losses are reported to have been 1,000 killed and wounded. The shattered Spanish forces succeeded in withdrawing to Tiziazzi, which post has since been reported captured by the rebels, who are said to have suffered severely, their losses chiefly resulting from bombing by Spanish planes.

This latest reverse has brought the Madrid Government face to face with a critical situation. It is fairly certain that after their victory the Moors will be more uncompromising than ever and will press for further success; while there is a strong sentiment in Spain for complete withdrawal of Spanish troops from the North African zone, there are also those who consider evacuation unthinkable, not only on account of national pride, but because they believe France would at once take possession should they evacuate the colony. Consequently it is evident that the Spanish Government will now have to choose between abandoning its African possessions or resuming the offensive until the Moors are subdued.

The Tangier question, which comes up periodically, is again scheduled to be discussed at a conference to be held in London at an early date. Although Tangier is an international zone, both France and Spain desire it. Spain desires it in order to round out her Moroccan colony and also because of its position relative to the Spanish coast; France, in order to obtain another base on the Mediterranean and as a foothold towards the final acquisition of the Spanish zone. Great Britain has always been opposed to its falling into the hands of France because of its strategic position. Thus far French influence has predominated in the zone and has been much resented by both Spain and Great Britain.

Recently France and Great Britain signed a convention in which the latter withdrew her last opposition to the French protectorate over Morocco and Tunis. It is believed that agreement has considerable bearing on the coming discussions regarding the Tangier issue, as it is possible that the French will agree to the British viewpoint concerning Tangier in return for the British concessions regarding Morocco. Although France would like to hold the south shore of the Straits, she no doubt realizes that Great Britain will never consent to it.

THE NETHERLANDS.

INSPECTION OF NAVAL ACADEMY.

May, 1923.

The naval academy, where all cadets for the Dutch Navy are educated, is located at Den Helder, the principal naval base in the Netherlands. It has recently been inspected and appears to be a well-organized and well-run institution. The buildings (one large building with several small additions) are somewhat old and crowded, but they are clean and well kept. The usual classrooms, study rooms, mess hall, etc., are provided. The cadets all swing in hammocks in one large dormitory, which is well ventilated and scrupulously clean. A new and well-equipped engineering workshop has recently been added for the practical instruction of engineer cadets.

A former report gives all the details of the regulations of the naval institute. There is no change to report, except that the course is to be increased to four years for all cadets, owing to the abolishment of the preliminary school at Dortrecht, where the boys formerly went for their preliminary training; the two schools are now to be combined. The present and future number of cadets is as follows:

April, 1923	100
September, 1923	180
September, 1924	240

The increasing numbers being due partly to the closing of the Dortrecht school.

The general appearance of the cadets is excellent. They are a bright, clean, healthy looking lot of boys and compare favorably with those at our own Naval Academy.

THE NETHERLANDS.

TORPEDO NOTES.

May, 1923.

I have been informed that the Netherlands Navy are experimenting with a device for torpedoes which will cause the torpedo to run in a circular course, after completing a straight run of any desired distance. The device can be set to lock the steering rudder to one side and throw out the gyro after the torpedo has gone the desired distance. The object is to fire torpedoes into the center of a formation and make it difficult for the target ships to avoid them by maneuvering.

I am also informed that the Dutch Navy are having considerable difficulty in recovering torpedoes after they are fired in practice, as their torpedoes, with full weight of war head, have negative buoyancy when fired and at the end of the run. A practice head filled with water of the same weight as the war head is used. An automatic device blows the water out of the practice head on completion of the run, so that the torpedo will float, but, in practice, this device has frequently failed to function.

The Dutch Navy is equipped entirely with French St. Ropez torpedoes.

THE NETHERLANDS.

TRAINING OF ENLISTED PERSONNEL.

May, 1923.

The training station for apprentices, Dutch Navy, is located at Goringhem, on the river Merwede, about 50 miles inland. The establishment consists of two hulks *Schorpeion* and *Nautilus*, with an old gunboat, the *Vidar*, as tender, all under command of a commander. The station is clean and well kept. Discipline appears to be good, but the training is somewhat antiquated, and the facilities and equipment are poor. There is no gymnasium, athletic field, or drill shed for use in bad weather.

The number of apprentices under training is 235. The age for entrances is between 16½ and 20 years, and the training period lasts for one year. The pay is from 80 cents to 1.40 florins per day, with free outfit of clothing on entry.

During the first three months apprentices may be discharged at any time, if they so desire. At the expiration of three months, they must sign an agreement to serve in the Navy for five years after leaving the training station.

Men are paid a bounty for enlistment in addition to their pay, amounting to a total of 180 florins. Of this, 30 florins is paid at the expiration of the three months' trial period, 30 florins on leaving the training station, and 30 florins each year until the whole is paid.

After six months apprentices may be rated "matrons, third class" (seaman, third class). Those who do not qualify for this rating in a year are discharged.

On completion of the training period the men are sent to a sea-going man-of-war for a further training of six months. During this time they are segregated from the rest of the ship's company and are in direct charge of the same instructors as in the training station. On completion of this cruise they are rated "matroos, second class" (seamen, second class), and are sent to general detail, usually to a ship in the Dutch East Indies, for about three years service. Pay on board ship for third-class seaman is 2.15 florins per day and for second-class seaman 3.70 florins.

Eighteen months after leaving the training station a man is eligible for the rating of seamen, first class, with pay commencing at 5.05 florins per day (about $2). (NOTE.—These rates of pay are for serving in the Indies; the pay in home waters is considerably less.)

At the end of first enlistment a man may reenlist as a waiter, cook, steward, etc., or as a corporal (petty officer), in which case he is given a special course of training which lasts a year. Men may, if they wish, reenlist for five years without being rated.

Family allowances are given and there are many additions to pay for special qualifications.

Men may be retired and pensioned after 30 years service, time in the Tropics counting double. Retired pay is three-fifths of combined pay and allowances for service ashore in Holland, with additions for the higher ratings and for length of service in the Tropics. Pensions are granted to widows and orphans if a man loses his life in the service. There is also a fund for the relief of widows and orphans, to which voluntary contributions are made by the enlisted personnel.

In case the voluntary enlistments are not sufficient to supply the required number of men for the navy, the deficiency is made up

by conscripts. Conscripts are not sent to the training station, but are given a short course of training in barracks at Den Helder and are then detailed on board ship. They wear a different uniform from the regularly enlisted men and perform duties of the lowest ratings.

NORTH AFRICA.

RECENT MILITARY OPERATIONS.

May, 1923.

Recent military operations in various parts of North Africa are of considerable interest.

Between Egypt and the Atlantic the north coast of Africa is proportioned between France, Spain, and Italy as follows: Adjacent to Egypt is the Italian colony of Libya, which in turn is divided into two sections, the eastern of which is known as Cyrenaica and the western as Tripolitania. Next comes the French protectorate of Tunisia and then Algeria, which is strictly not a French dependency, but is a part of France itself, having its own representatives in the French Parliament, although sections of the country are under military government. West of Algeria comes French Morocco, extending to the Atlantic Ocean and completely inclosing Spanish Morocco and the international zone of Tangier. Tunisia and all except the southern part of Algeria are settled, peaceful regions, but attempts at penetration by the Italians in Tripoli and Cyrenaica, by the French in French Morocco, and by the Spanish in Spanish Morocco have met with vigorous and continued opposition from the natives; as a whole the French have been much more successful in North Africa than either the Italians or the Spanish.

The most extensive military operations which have recently gone on in North Africa have been in Tripolitania, where the Italians have 18,000 troops (8,000 Italian and 10,000 native). Engagements which began early in February, 1923, first resulted in clearing the region between Homs and Tripoli of hostile Arabs, so that this route for the first time in eight years can be used by the Italians. Following this the latter continued to capture further Arab strongholds, the most important of which are Tarhuma and Misurata. Although the capture of the latter city was considered the termination of the campaign, since it was the last important stronghold held by the hostile tribes, further skirmishes have occurred and are likely to occur.

In this campaign in Tripolitania the Italians employed about 9,000 combat troops, 2,000 camels, 3,500 horses, and about 24 airplanes. Although the organized resistance against them numbered

only from four to five thousand Arabs, the territory through which the Italian columns passed is inhabited by forty to fifty thousand people, about one-third of whom are estimated to be well armed.

Conditions in Cyrenaica have in general been more satisfactory than in Tripolitania; the Fascisti Government in Italy, however, has decided to use a strong hand in this colony whenever necessary and has warned the Senussi tribes that Italian sovereignty will be enforced throughout the territory. Although some resistance has already been met, serious conflicts are not anticipated.

The greatest problem confronting the Spanish Government at present is the situation in Spanish Morocco. Spain has been striving for years to subdue the tribesmen in this colony, but thus far her efforts have met with but little success. The large sums of money which have been expended on operations and the great number of lives it has cost the country has brought about a very strong feeling in Spain against further military action. This feeling has grown so strong that it has resulted in the present government committing itself to a policy of peaceful penetration. Whether it will be able to carry out this policy remains a question, as the new high commissioner, Don Luis Silvela, who recently completed a tour of inspection in Morocco, is said to have reported to the Government that while the western zone is now comparatively quiet the situation in the eastern zone calls for vigorous military action. Although no encounters of significance have occurred, small and rather spasmodic aggressions by the Moors against exposed posts are continually taking place. Spain has stationed in Morocco 3,268 officers and 94,802 enlisted men.

Although France has been successful in subduing practically all the natives of French Morocco, there are still tribes in the north spur of the Atlas Mountains, to the south of Taza, which have not submitted to French rule. It is Marshal Lyautey's plan to occupy the districts before the end of the year, and the first engagements of the campaign have taken place with the northern tribes, details of which have not been made known. France has 76,000 troops stationed in Morocco, and it is estimated that about 25,000 men are being used in the campaign. Operations are likely to prove arduous due to the difficult terrain, and considerable resistance is expected from the hardy tribesmen, who still hold out under the leadership of a group of religious personages and important Berber chiefs.

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FOR CONVENIENCE IN ROUTING.

Officer.	Initials.	Date received.	Date forwarded.
Captain			
Executive Officer			
First Lieutenant			
Navigation Officer			
Gunnery Officer			
Communication Officer			
Engineer Officer			
Medical Officer			
Supply Officer			
First Division Officer			
Second Division Officer			
Third Division Officer			
Fourth Division Officer			
Fifth Division Officer			
Marine Officer			

The material for the Bulletin is largely derived from service sources and its interest and value are correspondingly dependent upon the number and character of the reports received by the Office of Naval Intelligence from our own officers. In this connection the observations of officers afloat are of great value, particularly if the reports rendered are drawn up in accordance with existing intelligence instructions.

While political and economic information is undoubtedly of much use, the collection of military information should come first in the intelligence work of cruising ships.

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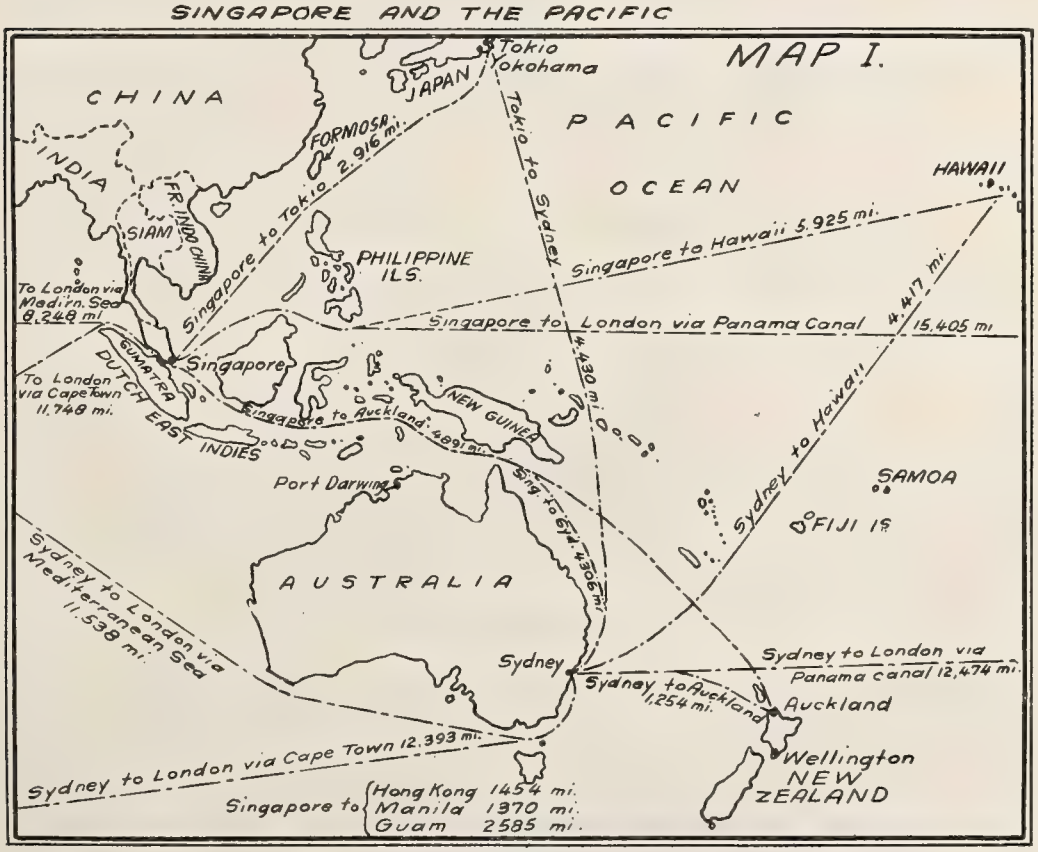
GREAT BRITAIN.

NAVAL BASE AT SINGAPORE.

23 July, 1923.

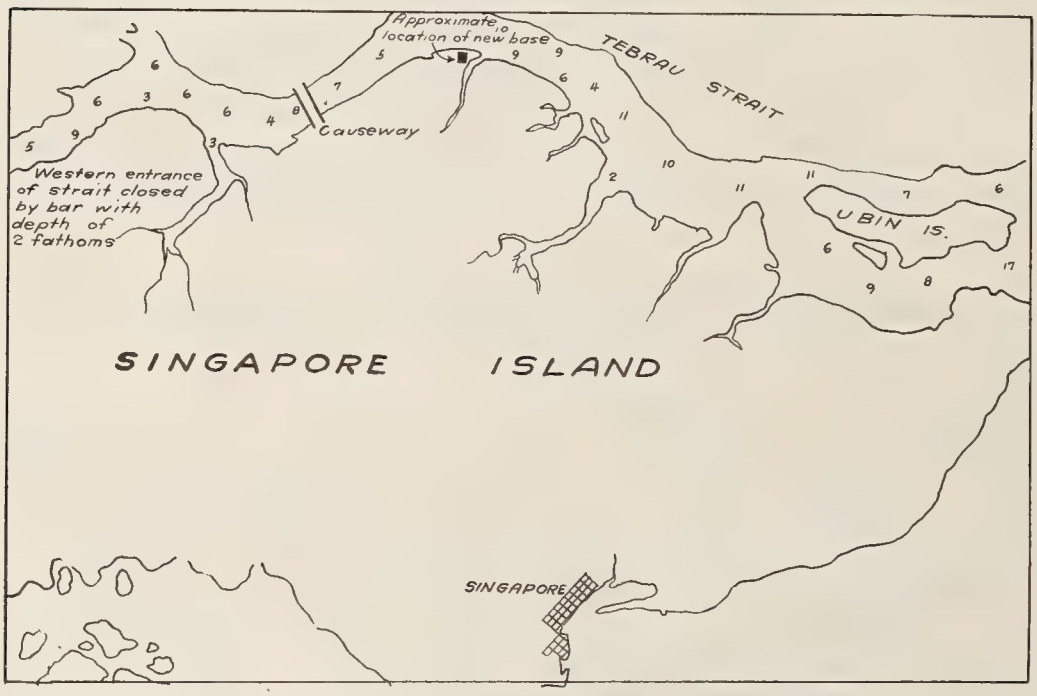
The British project for a naval base at Singapore has occupied a conspicuous place of late in the realm of international news, and in the following article is briefly summarized the available data on the subject for the information of the service. Very few details of the admiralty plan can be obtained as yet but it is abundantly evident that the British Government is concerned about the present weakness of the eastern sea frontier of the Empire and is very much in earnest in its desire to provide there an adequate fleet base. The "Parliamentary Debates" furnish the best discussion of the subject now available, and are fully quoted below.



HISTORY.

"The strategic importance of Singapore was very fully recognized by the Imperial Defense Committee of 1911 and it was considered that the future composite Pacific Fleet of the Empire, as it was then spoken of, should look

to Singapore as its main rallying point and regular conference took place between the commanders in chief of the China, Australian, and Indian stations at intervals on what was recognized as the strategical center of the Empire east of the Suez Canal. * * * From the moment that the demobilization was complete, this problem of the necessity of improving our oil stations to Singapore and developing the base at Singapore was put forward by the naval staff to the Committee of Imperial Defense. The views of the naval staff were endorsed by the committee and by the Cabinet. * * * These proposals were before the Imperial Conference of 1921 and met with the approval of the Imperial Conference." (First Lord of Admiralty, May 1, 1923.) In reply to the question, "upon what date the late Government decided to establish a new naval base at Singapore and at what date did the present Government decide to confirm that policy?" Mr. Bridgeman, speaking for



the Prime Minister, replied, "in June, 1921, the Government of the day decided that the naval base at Singapore should be developed to meet the needs of a modern fleet." This reply is interesting as it shows that Great Britain had decided to establish the base at Singapore prior to the Washington Conference.

IMPORTANCE.

"At present there is no dock in British territory in the east capable of taking a capital ship. The Washington treaty precludes us from expanding and developing Hongkong, *and as a matter of fact the position of Singapore on the direct route to the Far East and on the flank of the commercial and strategic lines of communications with Australia is naturally the one best suited for our purpose.* It is for us almost what the Panama Canal is to the United States, our gateway to the Pacific." (Mr. Amery, House of Commons, March 12, 1923.)

LOCATION.

The new base will be in the old strait about three miles east of the causeway. The old strait is the channel between Singapore Island and the Malay

Peninsula, and was formerly the passage for all ships proceeding from China to India. From the map it will be seen that the new base will be on the opposite side of Singapore Island from the present base at Singapore. This will necessitate building new shops, barracks, docks, basins, wharves, and everything connected with a base. The material and labor market are ample.

As regards suitability of the location for dockyard foundations, Mr. Darbishire, who was a member of the harbour board of Singapore for 10 years, stated in the House of Commons debate on May 1, 1923: "You can never find bottom there. I do not know whether Singapore is suffering from something which is due to the glacial age, but the fact is that there is mud there with no bottom. In one particular work they thought they had reached bottom. They bored and assumed that they had got to a sound foundation, but as soon as piles were put into the ground they went through it, for it was only a crust. The whole scheme had to be modified, and the ultimate cost was something like double what had been anticipated." In reply Mr. Amery stated: "I can assure the House that we have, naturally, considered those problems * * *; but at the point where we propose to construct the base we hope to be able at any rate to accommodate a very considerable number of ships without any dredging and to construct the necessary docks and basins without meeting those difficulties of bottomless mud to which the honorable member referred. * * * They inquired into all conditions of Singapore before they took action."

The question was raised as to the suitability of the location as regards defense and whether it was not open to attack from the land side, to which the reply was made that the Admiralty had considered this question in consultation with the War Office, and that "the strait is much the easiest place for general defense purposes." As seen on the chart it is admirably suited for defense by mines. The location has been approved by the Naval Staff, the General Staff, and the Air Staff.

It is believed that Port Moresby, New Guinea, was considered as the location of this base, but was rejected, among other reasons, because it lay so far from Singapore that if the main fleet occupied it they could not cover the Empire trade routes passing by Singapore from sudden attack.

PROPOSED FACILITIES.

"What we propose to construct there is an *effective repair and docking base in every sense of the word.* We propose to have a graving dock capable of holding the biggest modern capital ships. We shall probably have a floating dock there as well. Certainly we shall have all the workshops, the stores of reserve ammunition, and all the other equipment of a good-size base upon which the fleet could work if the emergency should possibly arise." Fuel-oil storage will be provided.

Additional information in regard to the dock was given by Mr. Amery in the House of Commons on June 27, 1923: "The figure of £400,000 * * * was for a floating dock which was capable of taking one ship of the maximum size allowable under the Washington Agreement, but for reasons of general utility it is proposed to construct a somewhat larger graving dock, which could, if required, take *two vessels at a time.*" This statement appears to mean that the proposed graving dock will be able to take two vessels of the maximum size allowable under the treaty, in which case it would exceed in size any dry dock built. In addition to this, there will be a floating dock. (There are three floating docks built or building in the United Kingdom capable of taking the *Hood* which could be towed through the Suez Canal to Singapore.)

PRESENT FACILITIES.

The present harbor (south side of Singapore Island) possesses extensive dock and wharf accommodation of the highest possible value. The Singapore Harbor Board have capacious docks and wharves for the largest steamers to lie alongside in perfect security. There is a large wet dock with all modern appliances and the following dry docks:

	Length on blocks.	Width at entrance.	Depth on sill, high-water spring tides.
Victoria	460	64	20
Albert	471	59	21
No. 1	380	47	14
No. 2	440	64	17
Kings	873	100	34

The Kings dock can not take any of the British capital ships which have had bulges fitted, on account of their increased beam. Needless to say all of the above docks would be useful for docking auxiliary combatant ships.

The British Admiralty is erecting a large fuel-oil stowage at Singapore at a cost of £806,000. Estimated capacity 588,000 barrels.

DEFENSES.

In speaking of the new base, Colonel Amery stated in the Debate, "Undoubtedly Singapore will require guns to defend it and it will require some form of military garrison. It has not an inconsiderable military garrison at the moment. It will also require * * * its share of airplanes. But in all these respects Singapore, like Malta and Gibraltar, as far as most possible forms of attack are concerned, is in the main dependent upon the Navy itself for its security against a great attack. It is against minor attacks or preliminary raids that you want to make it secure * * * *. The present complement may have to be increased, but it will not require an enormous land force or air force." This statement indicates that the fortifications will be such as to enable it to withstand attack until the main body arrives, but not strong enough to stand a prolonged siege. It appears doubtful if any great increase in fortifications is contemplated as Mr. Amery says, "If there are any additional fortifications required they come under army votes, but I am not contemplating any such expenditure."

COST.

Estimated cost £10,500,000, at normal rate of exchange, $51,000,000, exclusive of any additional fortifications. Estimated cost of the graving dock £1,000,000. Amount provided in navy estimates, 1923–24, £200,000. Estimated time to complete, 10 years.

REMARKS.

The proposition to establish this base met with a good deal of opposition. Earl Grey, Mr. Asquith, Viscount Haldane, George Lambert, ex-Civil Lord of the Admiralty, Sir Percy Scott being among those who opposed the scheme on one ground or the other. However, the naval estimates were passed by a big majority.

The references to the United States, the Washington Treaty, and Japan during the debate were many. The possibility of war with Japan was very frankly discussed. Some of the pertinent extracts follow:

"We are not in a position to-day, nor shall we be for many years to come, to put a battle fleet into the Pacific or even so far as Singapore. In all these waters * * * we are helpless and reliant on the good will of a friendly and lately allied power." (Mr. Amery.)

"Against whom are you proceeding; what enemy do you contemplate which makes it necessary to establish a base in that part of the world * * * the answer which * * * the First Lord of the Admiralty will give is that we are not aiming at anybody?" (Mr. Asquith.)

"My answer is that it is not against Japan or any other Great Power any more than Malta and Gibraltar can be considered as a menace against France or Germany. They are required by our navy, which must be mobile and free to act right across the world." (Mr. Amery.)

"But so far from it being a matter of rivalry, Singapore may be of very great assistance to the United States in defending the Philippines, as we are certain to be on the side of the United States. No one supposes at this day that the United States is going to seek war with Japan, but no one can tell if the Liberal Party in power in Japan will always be in power, and that the militarist party will not come into power at a later date." (Commander Bellairs, House of Commons, May 1, 1923.)

"The last speaker stated that the United States were considering the construction of a base at Pearl Harbor, Honolulu. What on earth has it got to do with us whether the Americans construct a base at Honolulu or not? I hope they will if they want one. Personally, I am convinced that an American base at Honolulu would be a very good thing, not only for this country but from the point of view of the Empire, and I hope we shall see one. The position in the Far East at the moment is that we have no base there and neither have the United States. We do not want to go to war with the Japanese; we do not contemplate war with them for one moment, but, at the same time, they are a very great naval power and the Admiralty have got to consider this question, not only from the point of view of the Empire but from the point of view of world power. As I have said, the Americans have no base in the Far East, and it comes to this, that Japan, if she wished, * * * could do anything she liked in the Far East and we could do practically nothing to prevent her * * *. In my opinion it is vital for the mobility not only of our own fleet, *but of any possible allies* we may have, supposing we had a war in the Far East with any possible enemy you may conceive. *I do not believe any fleet could cross the Pacific Ocean* under conditions of modern war. The only way in which they could ever be able to get into that theater of war would be by going across the Atlantic through the Mediterranean and along our chain of bases." (Capt. Viscount Curzon, House of Commons, May 1, 1923.) There is only one possible ally who would have to cross the Atlantic.

"Does anyone think it is wise to bank, as it were, on the *Dreadnaught*, or on any other ship or any other instrument of destruction that we now possess being, 10 years hence, still an important and predominating ingredient of war? I say it is a speculation, it is even a gamble, which rests upon a very slender foundation of probability." (Mr. Asquith, House of Commons, May 1, 1923.)

"* * * You can not insure, if there was a difference with the Japanese in the near future, and war resulted, that the Japanese would fight our fleet

at once on arrival, and how on earth are we to maintain our fleet in the Far East without a great naval base?" (Commander Bellairs, House of Commons, May 1, 1923.)

"It is not a question * * * that we shall not have Singapore available in ten years, we shall have a large part available before ten years." (Commander Bellairs, House of Commons, May 1, 1923.)

"The agreement at Washington was for limitation in the number of capital ships and the maintenance of the status as regards bases within a very carefully defined area. There is no kind of limitation of any of the Powers concerned as to building other types of ships or the improvement of any dockyard in the Pacific or any other waters and no Power communicated with other Powers in regard to these." (Mr. Amery before House as reported in New York Herald.)

" * * * The only justification for the Singapore naval base is the possibility, however remote, of war with Japan. The question arises: Is this dock at Singapore essential for the protection of Australia and New Zealand? Are those Dominions persuaded that it is better to have a naval base at Singapore than in their own country?

"If such a war does occur, it would be a race conflict in which the United States and Great Britain would be engaged on the same side.

"I am not at all sure that construction of the dock at Singapore is the best way of preparing for such a contingency." (Viscount Grey, House of Lords July 23, 1923.) Lord Grey urged the Government to take all possible steps for the limitation of armaments.

The proposal to establish this base has been well received in Australia and New Zealand.

As would be supposed, the announcement has caused some irritation in Japan, but appears to have attracted less attention than might have been anticipated. One of the few important journals which has commented upon the matter is Yomiuri, a Liberal organ. It concedes the right of Great Britain to establish the base under the Washington Treaty, but thinks it regretable that the scheme should be initiated, and is inclined to believe that a new spirit of Imperialism is present in British politics, a spirit likely to promote a similar spirit in Japan. Commander Bellars is sharply criticized for his statement regarding the possible utility of Singapore to the United States in defending the Philippines, which it characterizes as a "brazen attempt to curry favor with America, a stratagem rather unworthy of the British, who are proud of their dignity and self-respect."

GREAT BRITAIN.

PARTICULARS REGARDING ARMOR OF NEW BATTLESHIPS.

June, 1923.

Newspaper clipping from the Sheffield Daily Telegraph of Wednesday, 30 May, 1923, indicates that the main armor belt of the new battleships H. M. S. *Rodney* and H. M. S. *Nelson* will be 13 inches in thickness.

A representative of the Sheffield Daily Telegraph was told by a director of Vickers Limited, Sheffield, in substance as follows:

The Prince will see a big armour plate rolled. The ingot will weigh 53 tons, being 43 inches thick, and will be rolled to a visible thickness of 30 inches. Eventually it will make a 13-inch plate for the main belt of the new battleship H. M. S. *Rodney*. It will be 16 feet by 9 or 10 feet.

During the visit of the official party through the shops of Vickers Limited, Sheffield, a considerable amount of armor plate labeled either H. M. S. *Nelson* or H. M. S. *Rodney* was observed in the process of manufacture in various stages. I was informed by a director of Hadfields Limited, Sheffield, that Vickers Limited had obtained the contract for one-third of the armor plate for the two new battleships.

A small wooden model of a turret for one of the two new battleships was seen in one of the shops. While no detailed information was evident, it was noted that it was provided for mounting three guns, for a range finder across the interior of the back of the turret, and, apparently, for high angle of elevation of the guns. In response to an inquiry, a workman drilling on a plate for the back of the turret, stated its finished thickness would be 9 inches.

One large armor plate was being trimmed off by an acetylene torch. This was the thickest plate observed in the shop and it was noted particularly that the inside dimensions, or what would apparently be the finished dimensions of the plate, was marked 14 inches, and it looked a good 14 inches thick. Indirect inquiries later of one of the directors verified that the finished thickness of that armor plate would be 14 inches, but it was not stated where the plate would be placed, except that it was for one of the two new battleships.

From the foregoing it appears that for the present the main armor belt of H. M. S. *Rodney* and H. M. S. *Nelson* should be considered as probably 14 inches in thickness. This information will be verified in the near future. It is intended that another visit of inspection of these works will be made with that specific object in view as soon as a favorable opportunity presents itself.

The main armor belt of H. M. S. *Rodney* and H. M. S. *Nelson* will be secured at the lower edge of the belt by a new method of somewhat novel design. The armor shelf, upon which the main armor will rest, will be in the form of a special steel casting, said to have about the same resistance to penetration as an equal thickness of armor.

None of the ends of sections of the armor plate is placed opposite the end of any section of this special steel casting armor self.

The sections of this special casting stringer are arranged in such manner that each section overlaps each adjoining section for the

purpose of giving additional strength and to prevent a whole section of the armor plate being driven in. The design of the "overlap" varies slightly.

It was stated by a director of Hadfields Limited that the side armor of these two vessels will be inclined at an angle to the vertical (as was the case with H. M. S. *Hood*); the amount of this angle is unknown.

GREAT BRITAIN.

ROYAL AIR FORCE PAGEANT.

30 June, 1923.

The annual Royal Air Force pageant was held at Hendon from 3 to 6 p. m., 30 June, 1923. The King, Queen, and several other members of the Royal family attended this pageant. The public attendance was estimated at about 70,000. The various events were carried out precisely as indicated in the program, and it is noteworthy that every event was carried out exactly on schedule, successfully accomplished, and there was not an accident of any sort to either planes or pilots. The events most interesting to a technical observer were events Nos. 5, 12, and 14.

Event 5 consisted of an exhibition of new plane types. This event had previously been seen and the flying of some of them had been observed. The performance of the Fairey "Flycatcher" was very carefully observed, as it is now certain that a modified plane of this type will be entered in the Schneider cup race. The "Flycatcher" as now built does not appear to have sufficient speed to be seriously considered in a race against fast planes. How much the speed will be increased by the substitution of a Napier "Lion" engine, racing wings, and possibly wing radiators can not be predicted. The "Wren," equipped with an A. B. C. engine with about $7\frac{1}{2}$ horsepower, took off and made one circuit around the field, but it was quite obvious that this plane could just fly and had absolutely no reserve of power. The Handley-Page single seater torpedo carrier was equipped with slotted wings, but as a matter of fact this plane landed at a much higher speed than many others of a more similar type not so equipped, although this may have been due to the inexperience of the pilot in handling this type of plane. The three fleet spotting planes were more or less similar in general characteristics, except that one carried the spotter in the bottom of the fuselage installed in the cockpit in a similar way to that of the Martin M. O. The supermarine "Seagull" took

off and landed with no more apparent difficulty than was experienced by any other plane, and it might here be noted that the field at Hendon is far from smooth.

Event No. 12 consisted of looping, rolling, spinning, and upside-down flying in formation and it was perfectly carried out. Formation was never broken from the time the planes took off in formation until after landing was completed, and leads one to believe that in future combat work, the squadrons which can execute such maneuvers will have a great advantage.

Event No. 14 consisted of a demonstration of a creation of artificial clouds by the assistance of smoke bombs and the great interest was in the amount of smoke developed and the color effects. It had previously been heard that the use of colored smoke screens are being developed in the British fleet, the colors being used to conform to the sky background in order that the screen may not be obvious. A great variety of color-making smoke compounds has been developed by Messrs. Vickers Sons. The Air Service of the United States Army has purchased a small amound of smoke-making shells to be fired from a gun on the ground for signaling purposes and the compound in these shells is believed to be the same as that used by the fleet. It is probable that this ammunition will be shipped home on one of the United States naval vessels visiting these waters in July and it is suggested that arrangements be made for a naval officer to witness the army experiments when the ammunition is received in the United States.

GREAT BRITAIN.

TEST OF NEW AERO-ENGINE SELF-STARTER.

14 June, 1923.

A visit was made this date to the plant of the Aircraft Disposal Company at Waddon, for the purpose of witnessing a test of the Brizon self-starter installed on a high-compression Liberty engine in a D. H. 4–B fuselage. Mr. Brizon, the inventor was present and gave a very painstaking description of his invention. It is understood that the Bureau of Aeronautics has received descriptions of this starter and has authorized the purchase of one complete starting outfit.

The starter consists essentially of a cylinder approximately 10 inches in over-all length and 3½ inches in outside diameter, fitted with a piston and rod extending from the piston through the bottom of the cylinder carrying a rack which engages a special spur gear

attached to an automatic engaging and disengaging clutch which meshes with an engaging gear fitted on the after end of the crank shaft. The cylinder has a spark plug mounted in the center of the top and this plug is connected to a hand-starting magneto in the cockpit. There is also installed in the cockpit a special hand-operated plunger pump, which pump acts as a mixer for gasoline and air and pumps this mixture into the starting cylinder by way of a small copper pipe, extending from the bottom to the top of the cylinder. The gasoline for starting is contained in a small chamber alongside the pump chamber and the amount is said to be sufficient for approximately 100 starts.

The operation of the starter is as follows:

A small valve at the bottom of the pump and connected to the copper line is thrown so that the pump discharges into the line. About 10 strokes are then given on the pump which forces the mixture into the starting cylinder and forces the piston down about 1 inch. This downward movement of the piston brings the rack in mesh with the spur gear and rotates that gear sufficiently to cause an engagement of the starting dog, which starting dog is forced to engagement by helical thread. The fact that the gears and the dogs are engaged is indicated by a slight motion of the propeller itself. The starting magneto is then spun and the explosion in the starting cylinder forces the rack down across the spur gear and gives the engine a quick rotation of about three-quarters of a revolution. The starting of the engine automatically disengages the starting dog and a heavy spiral spring mounted in the cylinder below the piston then tends to force the piston back up to its original top position. This can not be accomplished, however, until the pressure created by the explosion in the cylinder is relieved by a simple operation of so turning the valve below the pump that the line is open to atmosphere.

The engine used for the starting test was a comparatively new Liberty with very heavy compression, and the first start was made with the engine absolutely cold. Immediately after starting the engine was shut off and a series of about 10 starts were made. In every case, when the explosion occurred, the engine started. Due to the temporary nature of the lead from the starting magneto to the spark plug, a short circuit apparently existed somewhere in this line and the magneto was spun on three or four occasions without igniting the charge, but this could not be considered as a fault of the system.

The Brizon starter is very simple, compact, and effective. Its total weight as installed was said to be 26½ pounds, and the inventor stated in the new models this weight was reduced to 22 pounds. Its instal-

lation on the Liberty engine is comparatively simple and should not interfere with any synchronizing gear or installation of that nature, since an extension shaft might readily extend out through the rear side of the starting gear housing.

GREAT BRITAIN.

VISIT TO THE ROYAL AIRCRAFT ESTABLISHMENT, FARNBOROUGH.

June, 1923.

The Royal Aircraft Establishment, Farnborough, was visited on 26 June, 1923. It was noted that certain tests under way were either avoided or passed without comment, but these were few in number. As it was impossible to take notes and many interesting observations were made, the descriptions given below are not in all cases complete, but will serve as a guide to show in general what is taking place at the R. A. E.

The first building visited was used for testing airplane structures. A metal fuselage was mounted in a vertical position and undergoing a vibrating test, and a horizontal shaft containing an unbalanced weight was secured to the fuselage about 3 feet above the lower end. This shaft was driven by a belt from a small electric motor. No details as to the length of test could be obtained, but it was noted that while the observer was still in the building a wire in the fuselage carried away and the test was temporarily discontinued. Various parts of metal-constructed Junker airplanes were about the shop, and it appears that this design of plane had been given very thorough structural tests, including load tests on wings, fuselage, and tail members and landing shock tests on landing gear. The method of testing wings, fuselage, and tail members was in accordance with the usual loading practice, except that flat pads measuring 1 foot by 3 feet and filled with shot were used for load testing instead of the customary sand loads. These pads were cross-stitched in such a way as to be fairly stiff, and it was claimed that better distribution of load was obtained than could be had with sand loading. The Junker landing gear was being tested in a special apparatus, and it was stated that the purpose of this test was to ascertain the merit of the steel spring type of shock-absorber cord as used on that plane when compared to the rubber type of cord. The landing gear was mounted in a frame, and in the upper part of the frame was a weight operating in the method of a pile driver. Attached to the movable part of the landing gear was a calibrated bending arm, the deflections of which,

by means of appropriate mechanical connections, were recorded on a revolving disk. From this record there was obtained the amount of motion of the movable part of the landing gear and the time of such movement. The actual force of the blow was measured by a Brinnell test device between the hammer and the top of the landing carriage. Another testing device of interest was the control cable testing apparatus. This consisted of four cable pulleys mounted in a vertical position in such a way as to form a square and two fair leaders mounted on the sides in such a position as to deflect the cable and cause friction.

An arm operated by a crank shaft and driven by an electric motor was attached to the cable and the cable was thus given a motion of about 6 inches in one direction, followed by a reversal to 6 inches in the other direction, the complete oscillation requiring about one second. Efforts were made to obtain data as to results obtained but it was stated that the apparatus had been in use for such a short time that no definite results had been obtained.

Another device in operation was for testing the vibration effect on stream line wire. This device was of the usual type and no description will be given.

The next building visited was the engine test house. This place was very complete and capable of performing a large number of tests of different character at the same time. There were three sets of equipment for testing single cylinders so arranged that compression and valve timing could be changed while the cylinder was operating. The cylinder mount was so arranged that it could be adjusted in height, thus changing the compression ratio. By means of two specially constructed variable cam shafts a change of valve setting could be accomplished. The horsepower was absorbed by a dynamometer connected to a direct reading horsepower indicator. The cylinder also contained a small opening in the top to which was fitted a float ball valve. From this valve was a lead to a small air chamber. The purpose of this rig was to measure cylinder pressures. Electric contacts were fitted to each of the two valve seats in the valve and connections from these contacts were taken to a recording disk. The pressure tending to seat the valve against the pressure of the cylinder could be varied at will and the recording disk was so connected to the engine that the position of the piston was continually recorded. The result obtained might properly be regarded as a continuous indicator card. There were several of the usual water-brake type of test stands in the building upon which various types of engines were being run. Some of these stands had a special equipment such as temperature chambers to similate conditions in different climates. There was also a very complete altitude test

chamber. This installation had just been completed and it was gathered that considerable difficulty was being experienced in its operation due largely to the formation of snow in the lines.

A device of interest observed in this building was the so-called R. A. E. starting apparatus. It had been noted at plants of engine manufacturers that practically all engines had a special fitting in the top of the cylinder for the purpose of connecting a pipe about one-quarter of an inch in diameter but it was not until the R. A. E. was visited that the purpose of this feature could be ascertained, as engine manufacturers refused to discuss it. The R. A. E. starting device consists of a small single cylinder air-cooled engine operating a compressor which compresses a carburetted mixture. This carburetted mixture is forced to a distributor mounted on the engine which distributes the compressed mixture to the cylinders according to proper engine timing. The result is that the engine is cranked over by the compressed mixture in the tests observed and started almost at once. The device weighs about 40 pounds and is only installed in multi-engine planes or planes with single engines with large horsepower, such as the Napier "Club." For ordinary use the device is mounted on a small handcart equipped with long flexible leads and is hauled up to the plane in the field or on board ship, connected up, engine started, and the device removed. It would appear in the absence of self-starters that such a device would be very useful on carriers. Its existence, however, may be regarded as proof of the fact that the British so far have been unsuccessful in the development of a really satisfactory starter built into the engine. In this connection it was noted that the Rolls-Royce "Condor" awaiting test in the test shed was fitted with an electric starter built into the engine, but it was stated that this starter was not satisfactory and would probably be removed.

While in the engine test shed a request was made to be shown the work being done toward the development of a heavy-fuel engine. Compliance with this request was very delicately avoided and practically no information on this subject could be obtained other than a statement from one of the mechanics that they were working on a compression ratio of about 12. The impression was gathered that the reason for the refusal was the fact that there was very little to show rather than any important developments which they desired to keep secret.

The next building visited was the foundry and the most interesting thing observed in this building was the casting of aluminium heads on to steel cylinders. This operation was being carried out on both the "Jupiter" and the "Jaguar" engine cylinders. The R. A. E. seemed very proud of the fact that such an operation could

be successfully accomplished but were rather vague as to the advantages gained by this method of attachment over the method used by the manufacturers. There seems to be no doubt that a very tight joint was obtained by the casting method, but the operation was undoubtedly expensive on account of the intricate form of the aluminium head. Nothing else of particular interest was going on in this building.

The next building visited was the propeller shop and in this building various tests on various types of propellers were being conducted. It appeared that more energy was being expended on the question of developing successful mechanical means of varying the pitch than upon any other one feature. In most cases these experiments were being conducted on metal propellers. Nothing definite could be ascertained as to the result of the experiments, but no airplane has yet been seen in service in England equipped with a variable pitch propeller. Experiments were also being conducted in determining the pressure of various points along the blades of propellers. Such propellers were fitted with a series of small fittings (about one-sixteenth of an inch in diameter) in rows across the blade, the rows being spaced about 6 inches apart and the fittings in each row about 1 inch apart. From the fittings extended small metal tubes leading to a recording device fitted in a special hollowed-out hub. The opening in the blade end of the fittings was fitted with a small plug flush with the blade, which plug was removed when that particular spot was under test. The tubes were laid along special grooves cut in the face of the blade and the whole blade was then covered with a very thin veneer. One propeller was observed with an arrangement for ascertaining the deflection. This arrangement consisted of a series of very small mirrors (about one-quarter inch square) mounted perpendicularly to the blade and faced toward the hub. There was installed in the hub a small light and a special camera and the results were obtained by recording the light reflected upon the camera film. It was stated during the inspection of the propeller shop that attempts were being made to design a propeller which would give less noise than the ordinary type when being rotated, but that so far very little success had been achieved in this direction, as the propeller so designed gave reduced efficiency. Various experimental metal propellers were being constructed in the shop. The method of construction was very crude and undoubtedly expensive. This was one of many cases that was observed where it appeared that certain work was being carried on by the R. A. E. which might have been more successfully and economically carried on at private plants specially equipped.

The next building visited was the wing shop. The principal work in this shop appeared to be experimental construction of metal

wings. This was practically all being accomplished by hand and the results did not appear as satisfactory as the wing construction noted some weeks ago at the works of the Armstrong Siddeley Company. There was observed in this building a wing evidently fitted in the same manner as the propeller described above for getting pressure results.

The next place visited was the hangars, where there was an unexpectedly large number of various types of planes available for or being used for various tests. These types appeared to include almost everything constructed in England from the time of the B. E. 2 with the R. A. F. engine up to the most modern types. A great many of the devices seen in the shops were installed on these planes, and there were in addition other experimental installations. Among these was an engine mounting so made as to record engine torque. Another was a device for measuring landing shocks. A third was the R. A. F. flow meter. When questions were asked about this meter the answer was given that it was entirely satisfactory, especially in cases of engines with the consumption of fuel above 20 gallons per hour. Careful search was made for a plane fitted with slotted wings, but no such planes could be found. Search was also made for experimental bomb sights, bomb-releasing gear, torpedo-releasing gear, etc. It appeared that no experiments in these lines were being carried on, and it is believed that this work is done at operating stations.

The last place visited was the flying field, where demonstration flights were given in the following types of planes:

Aldershot bomber, equipped with 1,000 H. P. Napier "Cub" engine.
Westland "Weazel," two-seater fighter, equipped with Bristol "Jupiter" engine.
Westland "Weasel," two-seater fighter, equipped with "Jaguar" engine.
Sopwith "Night Hawk," equipped with "Jupiter" engine.

A chance was had to inspect all these planes on the ground. It appears that the Avro Aldershot bomber was originally designed for the Rolls Royce "Condor" engine, but due to the delay experienced in getting this engine through its tests and to the fact that it was desired to put the Napier "Cub" in the air the design was modified to take the latter engine. The Aldershot bomber has no special features worthy of mention. It seemed to fly well, but was obviously lightly loaded, and the pilot did not seem especially enthusiastic about its performance. It was noted that all of the other airplanes, which were in all cases equipped with air-cooled engines, had an apparently excellent climb, and that the speed did not appear especially high. This, of course, was to be expected on account of the head resistance. There is no doubt, however, that practically

all British fighting planes built or building carry radial air-cooled engines. When questioned on this subject a well-known officer stated that they thought it desirable to reduce the risk of a plane having a forced landing on account of loss of water even at the expense of decreased speed.

JAPAN.

ESTIMATE OF THE POLITICAL-MILITARY SITUATION.

July, 1923.

1. Form of Government.

Though Japan is classed as a constitutional monarchy, this term has not the usual meaning of parliamentary government under a limited monarchy, for public opinion only slightly determines the policy of state.

Traditionally the Imperial family traces its origin to the gods and its first Emperor was Jimmu Tenno, who, as half god, first ruled Japan, 660 B. C. From Tenno, in a so-called " direct line," the present Emperor is descended. The mythological traditions of the past materially influence conditions to-day.

Great feudal lords have repeatedly overrun Japan and really ruled, yet respected and held aloft the divinely guided Emperor. Traditions of divine Imperial right and the influences of a group surrounding the throne, chiefly of the military oligarchy, have mainly dominated the Government policies.

In 1860 there were several hundred feudal States in Japan, each with very closely prescribed limitations. The heads of these States resided in Tokyo most of the time. For 250 years the head of the Tokugawa clan had been the most powerful lord. During this period Japan had been closed to foreigners, but Admiral Perry forced the opening of a few Japanese ports in the treaty of 1854 and with this the established system was so shaken that in 1867 the boy Emperor Meiji was placed on the throne as a real ruler. The feudal system was abolished and the heads were given titles of nobility. They are the Peers of to-day.

Under instructions from the Emperor, Prince Ito made elaborate studies of constitutional governments abroad and selected the Prussian constitution as most applicable as a model for Japan. The constitution was promulgated in 1889. Eight years before, the Emperor had directed his people to prepare for the promulgation. This is one of the few instances in history where a ruler has granted a constitution voluntarily.

Political parties began with a " Liberal Party " established in 1881.

The voters, limited to only a few hundred thousand in 1889, have increased to nearly 3,000,000. About one-fifth of the grown male population of Japan has the right to vote to-day.

Prefectural assemblies were established in 1880 and the right of local self-government was extended to cities, towns, and villages in 1889.

The Emperor Meiji died in 1912 and the present Emperor became ruler. However, owing to ill health, he no longer performs the duties of his position. The Crown Prince Hiroshito, now 22 years of age, was appointed Regent November 25, 1921.

For a brief Japanese history, see "A Short History of Japan," by Clement.

2. Organization of Government.

(1) The General Government.

EXECUTIVE.

The Emperor.—All executive, legislative, and judicial powers are vested in the Emperor. The constitution provides that "the Emperor is the head of the Empire, combining in himself the rights of sovereignty." Under the constitution the Emperor promulgates imperial ordinances which must be submitted to the Diet at the next session, and these become inoperative unless approved. He thus exercises legislative powers in concert with the Imperial Diet. He sanctions laws and orders their promulgation; summons, prorogues, or dissolves the two Houses; fixes the salaries of civil officials and army and navy officers; declares war, makes peace, concludes treaties, confers titles of nobility and other general honors, and grants pardons and amnesty. The Emperor stands much in the relation of a father to his children, sympathy and love instead of abuse of authority being given and expected. The Emperor's actual political influence depends upon his force and personality. Under the present regency the Crown Prince Hiroshito is Emperor in everything except name.

The Cabinet.—The Cabinet consists of a Premier and ten ministers who are heads of the following departments: Foreign Affairs, Home Affairs, Finance, War, Navy, Justice, Education, Agriculture and Commerce, Railways and Communications. To the Cabinet is delegated executive functions pertaining to these departments and the administration of Government affairs, except such matters as are delegated to the army and navy staffs and the concurrent power of initiating projects of law with the Privy Council and Imperial Diet.

The Prime Minister has general supervision of administrative affairs. He is usually the most powerful member of the strongest

political party of the moment or a distinguished nonparty man from the peerage.

The Secretary of War must be an army officer above major general in rank, and the Secretary of the Navy an admiral.

The Council of Elder Statesmen (Genro, an unofficial advisory body).—The original body, which was really an inner clique of the Privy Council, has been reduced by death to two members. Formerly, under Prince Yamagata, it was the most influential organization in Japan on matters of high state policy and exerted a powerful military influence. The older and more influential members of the Privy Council will hereafter probably exercise the functions of the former Genro, though with somewhat less influence.

The Privy Council.—This advisory body consists of 24 life members, among whom are distinguished jurists, peers, army and navy officers. This Council considers and advises the Emperor on treaties and important legislation regarding Constitutional and Administrative Law. Its power is great and probably increasing as the power of the Genro wanes.

Army and navy staffs and councils are especially assigned the power of considering and advising on matters of military and naval policy. They, however, exercise much more authority and actually shape many of the nation's foreign policies.

LEGISLATIVE.

The Imperial Diet consists of a House of Peers and a House of Representatives. The House of Peers consists of 372 members, approximately two-thirds of whom are from the nobility. Members serve for seven years or life. This body is the least political, the most bureaucratic, and usually the strongest in support of any Government policy.

The House of Representatives consists of 464 elected members, who serve for four years unless the Diet is sooner dissolved by the Emperor. This body is the political storm center in Japan, and unless in accord with the Premier one or the other must fall.

The legislative power is ultimately under the control of the Emperor, while the duty of the Diet is to give advice and consent, and in giving this both houses are on a footing of perfect equality. This strengthens the administration, which can aid in breaking occasional deadlocks arising from the fact that the two houses have often worked at cross purposes.

The right to question ministers of state on the floor of the house is accorded the Diet.

Method of Government functioning.—In the functioning of government the truly absolute power of the Emperor is apparent and the personal influence of his advisors is the really great factor in

the control of government. There is not even joint responsibility among ministers. A new Premier is designated by the Emperor, who has accepted the advice of the Elder Statesmen and Privy Council. The Premier forms a cabinet acceptable to His Majesty. A law contemplated is examined thoroughly by the Privy Council and its constitutionality then determined, though when passed by the Diet and given the Imperial sanction it becomes effective. The budget is prepared annually by the ministry and presented first to the lower house. If it is not approved, the budget for the preceding year remains in force, thus strengthening the central Government. If the budget is not approved or a vote of censure should be passed, the cabinet falls or His Majesty dissolves the house and a new election is called. In the past the Premier has always won a favorable house on an appeal.

Judicial.—The Japanese judicial system is modeled after the French. There are four courts: (*a*) The local courts, (*b*) The district courts, (*c*) The court of appeals, of which there are seven, and (*d*) The supreme court, of which there is one court of 31 judges. There is no jury system, but from one to five judges sit on the cases. The above courts have both civil and criminal jurisdiction. Cases are opened in the local or district courts and carried up on appeal. Prosecution is assisted by the prosecutors of the Ministry of Justice. The constitutionality of law is not a function of the courts but of the Privy Council.

(*2*) *Local political subdivisions.*

The political subdivisions of Japan proper follow the French system, and are here shown in their usual relation to each other:

Corresponding to States.	Corresponding to counties.	Corresponding to townships.
3 Fu (districts with functions of Ken and including cities of Tokyo, Osaka, and Kyoto).	Gun (county).	Cho (town). Son (village).
43 Ken (Prefectures).		Shi (city).
1 Hokkaido.	Gun (county).	Cho (town). Son (village).

The Shi (city) is a municipality governed under the provision of the local-government law. It is subdivided into Ku (wards).

There are 636 Gun, 59 Shi, 1,314 Cho, and 10,885 Son.

The governors of the 47 leading divisions are appointed by the Department of Home Affairs. The Prefecture assembly, consisting of 30 or more members, from whom a council of 17 members are chosen, is elected by the people.

The governor has the authority of final ratification, and the Department of Home Affairs may suspend the assembly at its discre-

tion. While the prefectural assembly theoretically has little real power, the central Government does, in fact, greatly respect local public opinion.

Local self-government in the cities, towns, and villages has a similar centralized system to the Prefectures. Cities elect their mayors, who are nominated with the sanction of the Emperor. The city assembly, which is the legislative body, and the city council, which is an executive body of which the mayor is head, are elected by qualified electors. In the towns and villages there are headmen elected by the people with the approval of the prefectural governors. This is the executive body which works in conformity to the will of an elected assembly.

The colonial governor generalcies of Korea, Kwantung, Formosa, and Saghalien are operated under the Department of Home Affairs. The governor general has almost absolute authority. The heads of the several departments under him are Imperial appointees. There may be local advisory bodies and a system of municipal and village councils, but there is in reality nothing bordering on local self-government in the colonies. The presence and use of troops and the usual appointment of army and navy officers as governor generals makes Japanese colonial government practically semimilitary.

3. Bearing of governmental organization on power to wage war.

Since the Emperor has the power to declare war, make peace, and conclude treaties, all other Government agencies are merely advisory to the execution of these functions. Usually the Emperor acts upon some direct recommendation by the cabinet in the declaration of war and upon a petition by the military or naval staffs for authority in the conduct of war. Though authority for expenditure of funds exceeding in amount the latest budget theoretically must be approved by Parliament, the power of the Emperor to dissolve a disapproving house, call for new elections, and to promulgate emergency ordinances renders the financial backing of the war certain by the Government.

4. Stability of Government.

The Japanese Government is recognized as thoroughly stable both at home and abroad. Material changes in the established system are not early expected, and development depends largely upon the death of old leading figures and the more liberal tendencies of the members of the younger generation who take their places.

II. INTERNAL POLITICAL ISSUES AND POLITICAL PARTIES.

1. Important political issues.

Political issues which distinguish a party are not closely drawn in Japan. Parties stand for "Japan first," and political campaigns

become more a case of "ins" against "outs." The charge of maladministration is the most important issue brought forth. On one hand conservatism marked by a desire to preserve the old traditions is a strong point; and liberalism with a demand for better education more favorable to labor and peace party principles are the contrary reactions.

Economic issues are most important to-day, a reduction in the present excessive prices of daily necessities, reductions and changes in land taxes, and closer commercial relations with Russia and China are demanded. Japan lost 20 per cent of her total gold holdings in the past two and one-half years and trade balances are still unfavorable. Reductions in the Government budget are strongly demanded. Military and naval expenditures, which reached 44 per cent of the budget two years ago, have been reduced to 36 per cent for the coming year in response to the Washington Conference and popular demand. Army and navy services are not generally popular to-day and further reductions are asked for.

A recent effort to extend military training to certain university student volunteers was abandoned because of loud and vigorous protests from other students. May day demonstrations were held but were not violent. There is some red radical agitation and arrests are frequent, but in most cases due to an overexcited, inefficient police.

Universal male suffrage was turned down as usual in the Diet. There was considerable popular demonstration in its favor and it continues to be an important issue.

Buddhist influences recently displayed great power in defeating in the Diet a Government proposal to establish diplomatic representation at the Vatican.

Internal political expression recently gave vent in a vigorous attack on the foreign minister for alleged weakness in establishing the postal treaty with China and failure to consult the Privy Council on the subject. In the condemnation, the military party crowd joined so as to shake off the criticism previously centered upon themselves. The policy of Japanese advancement in Asia, while generally accepted, has a great internal bearing as to the method advocated. As here shown, advocates of peaceful penetration must be prepared to meet strong demands for a militaristic strong front toward her Asiatic neighbors.

Considerable social and political excitement has been aroused by the "Eta" or outcast class, which numbers about 3,000,000, recently bringing their conditions to the attention of the people by clashes with the police and other Japanese. There is some real sympathy for this class and agitation for their improvement will continue.

2. Political parties.

The standing of the political parties in Japan is generally judged by the members of the lower house. The standing to-day is Seiyukai 284, Kenseikai 109, Kakushin Club 28, Koshin Club 26, Independent 17; total 464,

The *Seiyukai Party* represents the conservative business and agricultural interests. The party is opposed to universal suffrage, though the party itself is the outgrowth of the old Liberal Party. On the other hand, while influenced by the military party, it shows a tendency to grow liberal as rapidly as its leaders consider consistent with the welfare of Japan. The Seiyukai Party controls the lower house and has more influence than any other party in the cabinet, although actual party control of the Government was lost by the fall of the Takahashi cabinet in June 1922. Among the party leaders are former Premier Takahashi, Mr. K. Oka, and Mr. Tokomami, former Minister of Home Affairs.

The *Kenseikai Party* is the leading opposition party and generally spends most of its energy in attacking the Seiyukai Party and the Government administration. Whether the party really favors universal suffrage is doubtful, but it recently has supported that movement in Japan. The Kenseikai is strong in the cities and caters more and more to liberalism and industrialism. This is Marquis Okuma's old party, of which Viscount T. Kato, who, as foreign minister, wrote the 21 demands on China, and Mr. Mochizuki, member of parliament, are important leaders.

The *Kakushin Club* was formed in August, 1922, taking the place of the Kakuminto Party, which really went back to the Progressive Party of 1882 in its origin. It is the most liberal political organization of importance in Japan and supports universal suffrage, a reduction of 50 per cent in the army, great economic retrenchment, educational reforms, and closer relations with China and Russia. Messrs. K. Inukai, Ozaki, and Shimada are the leaders.

The *Koshin Club* in the lower house is really a small pro-Seiyukai Party, which occasionally asserts its independence.

The so-called military party does not exist as a political party as that term is usually understood. Its leaders are these bureaucrats in and above the Government who stand for militarism, large armies and navies, preservation of old Imperial ideas, and, above all, Japanese military aggression in Asia. The late Prince Yamagata was its great leader, and while his loss is felt there are many strong figures who support some or all of its principles to-day, viz, the army and navy staffs; the Imperial princes, of whom Prince Kanin is chief adviser to the Crown Prince; Viscount Kiyoura, President of the Privy Council; Viscount Hirata, Keeper of the Privy Seal; and

Prince Saionji, an Elder Statesman. Among normal military party men a number, such as General Baron G. Tanaka, former Minister of War, General Yamanashi, Minister of War, and Admiral Baron Saito, Governor General of Korea, have shown very liberal tendencies, siding at times with the foreign office against the aggressive faction on certain important foreign issues. The influence of the aggressive faction of the military party appears to have lost considerable of its power.

There are also out-and-out Liberals like Mr. Ozaki, leader of the disarmament and universal suffrage movement, and Mr. B. Suzuki, a labor leader, "Gompers of Japan."

In the peerage itself are men generally educated abroad whose influence is liberal and very friendly to England or America. These are such men as Prince Tokugawa, President of the House of Peers; Viscount Kaneko, member of the Privy Council; Count Uchida, Minister of Foreign Affairs, and Viscount Shibusawa, the financial philanthropist.

Broad liberalism and even socialism are weak but growing in power. In the future, political parties in Japan may be expected to develop more distinct and separate policies, probably following similar lines of development to that of the political parties in England.

3. The Government.

Political parties may come and go, but throughout these changes there is a Government which is solid and changes very little. Elder statesmen, privy councilors, and personal advisors to the throne rarely change except as death removes a leader and another takes his place. Premier Kato, however, probably exerts more influence in the actual operation of government than any other man. Viscount Kiyoura and Prince Saionji are most strong in exercising the functions of the privy council and elder statesmen.

Among those exerting most powerful direct influence on the Crown Prince Regent is Viscount Makino, Minister of the Imperial Household, a trained diplomat with world ideas. He understands both the Liberal and militaristic parties of Japan and will probably not swing too strongly either way. His influence on the Crown Prince will be steadying. Count Chinda, another personal advisor, is a Christian, educated in America and formerly ambassador both to America and Great Britain. His influence is distinctly liberal and progressive. Prince Kanin, a prince of the blood, trained in the army, is chief advisor to the Crown Prince. He will stand for the Imperial traditions and probably is the military party's strongest man in a personal advisory capacity.

The Crown Prince himself has shown evidence of liberalism, and is therefore very popular with the masses, but is only twenty-two years of age, and his future policies can not be foretold.

The present cabinet consists of:

Premier, Admiral Baron Kato.
Minister of Foreign Affairs, Count Y. Uchida.
Minister of Home Affairs, Dr. R. Mizuno.
Minister of War, Gen. H. Yamanashi.
Minister of Justice, Dr. K. Okano.
Minister of Finance, Mr. O. Ichiki.
Minister of Agriculture and Commerce, Mr. K. Arai.
Minister of Railways, Count E. Oki.
Minister of Education, Dr. E. Kamada.
Minister of Communications, Viscount T. Maeda.
Minister of Navy, Admiral H. Takarabe.

This is a nonparty bureaucratic cabinet formed in June, 1922, and headed by the chief delegate to the Washington Conference. Though popular abroad, the Kato cabinet, having no real party backing, has been only fairly popular at home. Baron Kato is not well, and an early change is predicted.

4. Bearing of internal political situation on international relations and issues.

The Japanese Imperial Government is strong enough so that international relations do not suffer from frequent changes in the internal political situation. The most important concern to America is whether the Japanese administration tends toward liberalism or militarism. At the present the general tendency is from militarism to liberality and friendship with England and America, as well as a more tolerant feeling toward China.

5. Regional and racial differences; separatist movements.

As a nation, the Japanese racially and politically are strongly united.

6. Foreign influence in internal politics.

The influence of training abroad or by foreigners on Japanese people, and statesmen in particular, is very marked and usually reflects to the advantage of the country giving the training. This has worked to the benefit of pro-British and pro-American influence in general. The great value and importance of trade with America undoubtedly influences the internal political attitude favorably.

III. FOREIGN POLICIES AND RELATIONS.

1. General aims, important policies or doctrines.

Japanese are thoroughly imbued with the idea that Japan must expand beyond her home borders to secure room for her surplus pop-

ulation and provide an independence in resources which can make her a truly great nation. The Japanese have developed a racial pride which calls for leadership among the Asiatics and equal opportunity with Europeans wherever they can assert these principles. Japan's policy toward China proper contemplates an amount of economic and political control sufficient to insure uninterrupted supply of certain raw materials at all times and under all conditions and toward Manchuria an attempt to complete domination, both politically and economically.

2. Relations to other important power, alliances or ententes, recent treaties, etc.

Relations with the United States have become more friendly as a result of the Washington Conference, though there has been a slight counter reaction recently, owing to resentment at the treatment of Japanese in America. The Four Power Agreement would end the Anglo-Japanese Alliance, and the Japanese Foreign Minister has openly stated that the spirit of the Anglo-Japanese Alliance was transferred to the Four Power Agreement in that it would preserve the peace of the Far East. The Japanese Government is pleased with the Washington Conference; the business men are well satisfied; the public is somewhat indifferent; but the navy is very much upset. Though these treaties are not yet in force, because of final approval of France, Japan has shown good faith in all the treaties, having withdrawn her troops from Harbin, North Manchuria, and Hankow and Shantung, China, and from all of Siberia except the northern half of Saghalien Island. She is reducing army and navy personnel and is holding up capital-ship construction.

3. General international political situation. Probable developments.

The general international situation has been very good for the past year, as agreement on all of the treaties of the Washington Conference has been reached by Japan. Japan, under the present cabinet, may be expected to carry out any treaties which are specifically laid down.

Interference in Chinese internal affairs in general by Japan may be more subtle and less objectionable in the future. Should Soviet troops invade the zone of the Chinese Eastern Railway, Japan might back up Chang Tso-lin, giving rise to a very complicated situation. China's proposal in February to have the 21 demands, including the Japanese leases in South Manchuria, set aside were vigorously declined by the Japanese Government, backed by the people. A protesting Chinese boycott on the Yangtze has recently resulted in Japanese sailors firing on Chinese strikers, and additional warships have been sent to the region. Future trouble is possible.

Adolf Joffe, a representative of Soviet Russia, has for months been in Japan for his health and is a guest of Viscount Goto, until recently mayor of Tokyo. The cabinet on June 5 requested Viscount Goto to express the Japanese Government's willingness to enter into an official conference with Soviet Russia, and for the present both sides seem to be trying to reach some preliminary understanding which will assure a successful conference, if one is held. Japanese business desires the immediate resumption of relations with Russia, and this attitude is growing in Japan, though the Government fear of red radicals has resulted in many raids and arrests by the police. Some sort of treaty resulting in better trade relations and possibly the settlement of the Nikolaevsk affair and evacuation of northern Saghalien is probable. Japan will always oppose the operation of American oil companies in northern Saghalien. Japan would quickly follow the United States if she were to recognize Soviet Russia. Japanese companies have succeeded in securing the usual fishing concessions for the season in the Kamchatka and Oshotsk regions.

The treatment of Japanese in America and the Japanese immigration question are not dead, though officially quiet. The Japan-American Society in Tokyo has recently urged the establishment of a joint high commission by the Japanese and American Governments to study the whole question.

JAPAN.

ESTIMATE OF THE MILITARY-ECONOMIC SITUATION.

June, 1923.

1. Production of raw materials and foods.

Japan produces a sufficiency of very few war essential minerals. Coal, copper, graphite, manganese, tungsten, and sulphur are the chief minerals wherein a surplus is mined and an export of any consequence usually maintained. As to vegetable products—camphor, iodine, paper, silk, timber, and vegetable oils are produced in sufficient quantities for the demand, and large quantities of camphor and silk are exported. At present considerable timber and vegetable oil are imported, due to the expense of production in Japan. Japan is practically self-sustaining in food, and although the reserve food supply is always small, intensive cultivation prevents the possibility of a serious failure at any time. Striking weaknesses, however, are apparent in mineral production, principally in iron, lead, aluminum, tin, mercury, zinc, nickel, nitrates, and petroleum. Cotton, hides, wool, and rubber are essential war-time products wherein a serious shortage also exists. Iron ore and pig come chiefly from China, and

steel largely from the United States. Lead is mainly furnished by Australia, and aluminum, mercury, zinc, and nickel by the United States and Great Britain. Tin and rubber are largely imported from the Straits Settlements and the Dutch East Indies. The entire nitrate import comes from Chile. The petroleum production during a normal period is sufficient for about 40 per cent of the demand and the import comes from the United States and the Dutch East Indies. Normally Korea produces about 5 per cent of the cotton consumed, and the remainder comes from India and America, with less than 10 per cent from China. Hides are supplied by China. Wool comes chiefly from Africa, with a minor percentage from Australia and China. The surplus production of Japanese raw material is consumed chiefly in China, but there are large exports of silk to the United States.

2. Industrial equipment.

The industrial situation of Japan is one of comparatively recent development, having attained its present status through rapid wartime expansion. Since 1920 the cost of production has been too great for many industries to compete with foreign manufacture, hence a large number of companies have failed and many more have been amalgamated. The larger percentage of machinery in Japanese industry is foreign built. The shipbuilding capacity is sufficient for demands, as proven by the advance from an insignificant position commercially to third place in the world's tonnage. The spinning industry is one of the largest and most recently developed, but practically all of the machinery is of foreign manufacture. One of the chief handicaps in most every industry is the scarcity of highly skilled or specialized labor. This is due to the short period of industrial expansion which has not been sufficient to create a background of an industrial class to train skilled artisans or make experts in any industry, as well as a very shiftless and temporary policw of hiring labor for very short periods only. Another handicap is the lack of highly organized scale production by labor-saving machinery, due to the presence of an abundant unskilled labor force, tending toward the maintenance of household industries.

The water power of Japan is destined to play a large part in the future development of industry. The total horsepower is estimated between eight and ten millions, of which 1,500,000 horsepower is in operation or under construction and about 5,000,000 more can be made available. It is estimated that if fully developed no other form of fuel or power would be necessary.

3. Munitions.

Sufficient development of industry has been made to supply all normal demands for munitions for the army, provided the raw

products are obtainable. Under war conditions the scarcity of cotton and nitrogen for explosives would be one of the chief difficulties. In order to overcome the shortage of nitrogen various projects have been made to develop nitrogen-from-the-air plants, but only the cyanamid process is being used. The plant on Lake Candidius in Formosa is the largest planned for the production of nitrogen in Japan or its possessions and will cost 48,000,000 yen.

The shortage of machinery during an emergency for heavy ordnance construction would also be a serious handicap, as most of this factory equipment is of foreign manufacture. Some difficulty would likely be experienced by the Japanese when a conversion of industry from a peace-time to a war-time production was attempted (as was partially the case in 1914–15), due to their natural inadaptability and lack of inventive genius.

4. Transportation.

(*a*) *Highways.*—There are over 300,000 miles of roads in Japan. They are generally very poor, crooked, and narrow, having been designed for narrow-tread rickshaws. The bridges, numbering 346,144, are particularly light and will not carry heavy loads. The main highways generally run parallel to the railway lines and are confined to the valleys, hence making detours often impossible except for pack trains or small carts. Motor transportation is generally restricted to the larger cities and their immediate vicinities. The network of roads is sufficient, nevertheless, for small cart or pack transportation, and the Japanese Army would move rapidly over them.

(*b*) *Railroads.*—The mileage of railways on March 31, 1920, was 8,196 miles, 1,996 of which is privately owned. There are, in addition, 1,288 miles of tramways. The gauge of all Government lines and most of the private lines is 3 feet 6 inches; however, many private lines are of a narrower gauge. The tramways are almost all city electric systems. The entire system is most complete and was constructed from the outset as a part of the plan of national defense. Plans have been proposed for the electrification of all the main Government roads, but only a small mileage has so far been electrified. The rolling stock is in good condition, exceeds 60,000 in number of passenger and freight cars, and should be sufficient for any emergency.

(*c*) *Rivers and canals.*—The rivers and canals are of no consequence as a means of transportation in Japan, except for handling freight from the seaports of Kobe and Yokohama to the industrial centers of Osaka and Tokyo.

(*d*) *Shipping.*—At the end of January, 1922, there were 866 Japanese vessels of 1,000 tons or over, with a total tonnage of more than

3,000,000 gross. The total Japanese merchant marine is about 4,100,000 gross tons. The harbors and docking facilities are ample and fairly modern. Japan's growth in shipping has been phenomenal. Although she launched 619,064 tons in 1919, owing to the general world shipping depression, only 59,000 tons were launched in 1922.

5. Communications.

The communications are all under the control of the Government. There are no private cable, telegraph, or telephone companies, communications being all controlled as a part of the national defense system. Cables connect Japan and China, Siberia, Manila, Guam, and Japan's outlying possessions. One Danish and one American cable are the only foreign lines into Japan and no new foreign concessions are being granted.

Radio stations are distributed at various points throughout Japan and the possessions, and the Government maintains numerous stations, in addition, in China and Manchuria. Japanese ships operating in the western Pacific undoubtedly are constantly in contact with Tokyo either directly or through fixed radio stations. The recent great radio activity in America and Europe is beginning to find similar reaction in Japan, although private individuals are restricted from setting up receiving sets by law.

The telegraph system is very extensive, having a length of line totaling 126,000 miles. There are very few towns and villages where the telegraph does not penetrate. The service is fair.

The telephone is probably the worst managed of all the Government services. The total length of the lines is 705,000 miles. Telephones are used extensively, but the service is very poor.

6. Finance.

The revenues and expenditures of Japanese budgets always balance at whatever figure is fixed upon for necessary expenses for the year. If by any chance the estimated revenue from public undertakings, direct and indirect taxation, should not cover the expenses, internal bonds are temporarily issued.

The national debt amounts to about 4,000,000,000 yen, of which over 1,400,000,000 yen are foreign debts. The national wealth is estimated at 86,070,000,000 yen. Gold holdings are about 1,800,000,000 yen, having fallen from 2,250,000,000 yen held January 1, 1921.

The Government takes a very active part in Japanese banking, and the Bank of Japan, strictly Government controlled, stands at the head of the country's financial system. The governmental banks take the leading part in financial matters, both foreign and domestic, while private concerns are restricted more or less to business within

the country. Although conditions may at times appear serious, precipitating bank failures and unusual bank runs, the Government has always been able to prevent a disastrous panic.

The military and naval budgets for the year 1923–1924 total 480,000,000 yen. This amount is 282,000,000 yen less than the appropriation for 1921–1922. The amount allotted to the army for 1923–1924 is 203,500,000 yen, which is approximately 60,000,000 yen less than the 1921–1922 appropriations. The actual amount to be expended for military and naval purposes can not be determined, due to the fact that the surplus from previous budgets is always available for expenditure by any department, its disposition being at the discretion of the Government. In addition to the regular army budget, certain military expenditures are carried under special appropriations or other departments, including the Home Office, Department of Education, Department of Finance, Foreign Office, and Department of Communication. This amount may total 35,000,000 yen for the present fiscal year. "Rewards and Pensions" in the Department of Communications total 80,000,000 yen per year.

7. Man power.

The actual population of the Japanese Empire is about 79,000,000, of whom about 58,200,000 are Japanese; 17,000,000 Koreans, and 3,500,000 Chinese. Japanese abroad number about 700,000. The number of Japanese is increasing about 750,000 annually. The birth rate is about 35 and death rate 22.5 per thousand per year. Infant mortality is higher than in European countries. The total available man power for military purposes is estimated to be 6,785,000. Japan's population is distinctly agricultural and although mostly all live in small villages or towns and cities, the chief occupation is farming.

Unemployment is not a serious problem. The transition from agriculture to industry has been too short-lived to turn labor entirely away from the farms, hence all labor relieved from industry is absorbed by agriculture. Minor strikes have occurred but with little result, since labor, as a whole, is practically unorganized.

Emigration to fertile economic fields is encouraged, but owing to the general opposition to receiving Japanese in British and American territories is considerably restricted. Probably about 30,000 leave Japan each year as emigrants.

8. Economic penetration of foreign interests.

Japan doubtless is more free from foreign economic penetration than any other first-class power. This has been due to strict governmental control directly through ownership of many of the large interests and indirectly by means of subsidies and protective tariffs, favoring Japanese concerns. Great distance from other industrial

countries has also favored Japan. There are no strictly foreign companies with large capital investments in Japan. By law no foreigner is permitted to hold land, engage in agriculture, or secure a mining concession within the Empire.

9. Principal economic interests of nationals in foreign countries.

Japanese penetration economically of adjoining territory on the continent has progressed rapidly. The iron production of China is practically controlled by Japan and likewise a small percentage of the coal output. Her economic control of South Manchuria is practically complete. Japan is thoroughly investigating the oil and coal deposits in Upper Saghalien. Japan has large interests in fisheries on the Siberian coast and in mining and lumber concessions in Siberia. The Japanese agricultural interests in California are very extensive. Efforts have been made to obtain oil concessions in Mexico and the Dutch East Indies, as well as nitrate concessions in Chile. Recent Japanese penetration agriculturally into Brazil and Peru has been evident.

The international policy of Japan has been based on the acquisition of raw materials in which a scarcity existed within the Empire. The natural limitations in raw materials have been evident to the Government for a number of years, and hence the whole policy has been to obtain these materials by any means necessary and wherever they might be found.

10. General conclusion.

In a résumé of the economic conditions in Japan the scarcity of raw materials, with the exception of food, appears to be the greatest handicap to economic independence. The manufacturing capacity of the nation is dependent to a great extent on the natural skill of its labor, which is low in Japan, but this can be overcome with further training and experience industrially. However, the raw materials to supply the manufacturers is here again the largest item. The transportation system as well as all communications are Government controlled. Transportation facilities are adequate, with the exception of highways and motorized transport. In shipping Japan has advanced in a compartively short period from a position of insignificance commercially to one of the largest maritime powers. The larger banking businesses are governmental institutions and most of the large individual business concerns are subsidized by the Government. Under peaceful conditions, therefore, Japan has an excellent chance to prosper and retain her position among the Great Powers. If she can obtain all raw materials necessary, her industrial expansion will continue, but at a slower rate, however, and by a proper utilization of her abundant cheap power and labor she can find employment for her surplus population for an indefinite time.

It is a conservative conclusion to state that economically Japan desires peace, particularly for the time being or until a self-sustaining industrial development has been made and sufficient supplies of strategic raw materials obtained either by actual possession of sources or accumulated reserve. She desires peace, especially with the United States and China, which are her greatest markets and her principal source of raw-material supply.

11. Current situation.

The standard of prices remains 100 per cent higher than in 1914. Though somewhat reduced in 1922, they have increased during the first three months of 1923. One of the chief economic problems is to reduce the cost of living without lowering the standard of living. This is handicapped by the agrarian party in control, who insist upon high prices for their rice and defeat all attempts of the Government to lower it. Economic depression in industries continues, raw materials are expensive, interest rates are very high, living and wages are relatively too high for the low efficiency of labor, and so far Japan is essentially an agricultural and not an industrial nation, hence at present foreign industries can, in general, excel the Japanese in competition in foreign markets.

Foreign trade totaled about 3,450,000,000 yen for 1922, with imports exceeding exports by about 260,000,000 yen. This is partially balanced by invisible exports of services and money sent home from Japanese abroad. Conspicuous in the year's trade was the remarkable growth in imports from Germany and wood from the United States. During the first three months of 1923 imports have decreased and exports increased over 1922. About 35 per cent of Japan's foreign trade is with the United States, and since essential raw products, as cotton and steel, are received and nonessentials, as silk and tea, sent, Japanese foreign trade is probably actually 50 per cent dependent upon America to-day. Gold holdings at home are held by an embargo on export, but holdings abroad have fallen from 1,343,000,000 yen January 1, 1920, to 595,000 in March, 1923, owing chiefly to the heavy unfavorable trade balance. At present gold holdings are falling at a rate of only four to five million yen per month, and the yen is almost normal in exchange value for the dollar. In 1925 Japan has to meet sterling loans totaling 417,000,000 yen, and unless she can float new loans must further make large gold sacrifices. The Oriental Development Co., with Japanese Government backing, has recently floated a loan of 40,000,000 yen in New York for use in colonial development in Manchuria and Korea.

The keystone of the present-day economic life of Japan is silk, and big Japanese business men realize that should America cease buying silk from Japan it would produce a very precarious economic situa-

tion in Japan. The power of this instrument to America should not be underestimated. Japan has nothing to take the place of silk.

Crops were particularly excellent last year, and indications are thus far favorable for 1923. This has assisted living conditions, which, however, are improving very slowly.

JAPAN.

ESTIMATE OF THE MILITARY SITUATION.

July, 1923.

I. MILITARY.

1. *Strength.—*

	Present strength.	Trained reserves.	Military trained man power.
Active army	250,000		250,000
First Reserves (Yobi)		615,000	
Second Reserves (Kobi)		749,000	
Replacements (Ho ju-hei)		50,000	
First National Army		200,000	
Unclassified		340,000	
			1,954,000
Total			2,204,000

There are estimated to be 4,581,000 untrained physically qualified males.

Service is compulsory. Period of service with the colors has recently been reduced to 22 months and 20 days and the annual increment from 130,000 to about 100,000. The number of men arriving at the age of 20 years is about 550,000 annually. The number serving with the colors has been reduced by 50,000 since August, 1922.

2. *Organization:* The Emperor of Japan is the supreme head of the army and navy. He appoints a board of marshals and admirals and the supreme military council from among the higher army and navy officers. These boards are the Emperor's advisors and largely control the military policy of the Empire.

The War Department has three quite distinct divisions, the minister of war, the general staff, and the inspectorate. The chiefs of each report direct to the Emperor and are not subservient to each other.

Army corps do not exist. Armies and expeditionary forces under appropriate commanders are created as circumstances demand.

There are 21 divisions of about 9,000 men each. The typical division has 2 infantry brigades of 2 regiments each, a field artillery

(19 divisions only), and a cavalry regiment, a transport, and an engineer battalion. A machine-gun company of 8 machine guns is being provided for each regiment of infantry. The division in war would probably consist of about 20,000 men. Each infantry battalion would be increased to consist of one machine-gun company and four rifle companies.

In addition to the 21 divisions there are 4 cavalry brigades of 2 regiments each, 1 independent infantry brigade of 4 battalions, 4 heavy field artillery brigades of 2 regiments each, 3 fortress artillery regiments, 8 fortress artillery battalions, 1 horse artillery battalion, 2 regiments of infantry created for Formosa, 4 regiments and 2 batteries of mountain artillery, 2 regiments of railway troops, two regiments of telegraph troops, 6 air battalions, 1 balloon company, 2 motor companies, and about 3,000 military police. No chemical warfare organization exists.

3. *Equipment.*—Infantrymen carry a 6.5-mm. rifle, and six light 6.5-mm. machine guns are assigned per company. The infantry machine gun company carries eight 6.5-mm. heavy machine guns. Each infantry regiment will eventually have three 37-mm. guns and three 3-inch howitzers. Trench mortars are added as needed. Cavalry carbine resembles infantry rifle, and engineers are equipped as infantry. Field and mountain artillery use 75-mm. guns. Most heavy field artillery is armed with 150-mm. howitzers or 105-mm. tractor-drawn guns. Coast defenses are 16-inch and smaller caliber guns and howitzers. Tanks, smoke, and gas are only used experimentally. Motor transport is limited to a few hundred machines.

It is estimated that the army has 25 observation balloons and 700 planes, of which 250 are fighting machines. Bids for 100 observation balloons were reported to have been made in Europe in December, 1922.

Individual equipment is good and reserve supplies are probably large. Mechanical equipment is insufficient in quantity when compared to the standards of the European war. Large purchases of war materials, especially machine guns, are being made. The number of mobile guns possessed by Japan is estimated at about 5,000.

4. *Mobilization*—The mobilization would consist of two phases:

(*a*) Mobilization of the 21 active divisions, 4 brigades of cavalry, 4 brigades of heavy field artillery, and an indeterminate number of army troops by calling out the First Reserves.

(*b*) The mobilization of the 22 reserve divisions by calling out a portion of the Second Reserves.

Mobilization of active divisions.—Except the Guard Division in Tokyo and the Nineteenth and Twentieth Divisions in Korea each

division is assigned a definite territorial district from which it draws its reservists upon mobilization.

Telegraphic orders for mobilization would reach all organizations by the second day. The reservists of the greater number of divisions would be concentrated and the divisions ready to move on the sixth day. Some divisions would be ready to move on the fifth day.

War with any strong power, such as the United States, would probably involve the employment of the greater part of the active divisions on the mainland of Asia.

In normal times and without special preparatory measures Japan can have in north China, 25 days after beginning mobilization, 18 infantry divisions, 3 cavalry brigades, and considerable army artillery. On the thirty-fifth day the complete active army could be in China.

Mobilization of reserve divisions.—The mobilization of the 22 reserve divisions would begin on the seventh day, or as soon thereafter as considered desirable. If all active divisions have been dispatched to the mainland, strong garrisons would be established in Formosa, Luchu, and Saghalen, with considerable garrisons in Kyushu and Honshu. Remaining divisions probably would be assembled as a mobile reserve at good ports, such as Ujina (Hiroshima) and Tsuruga.

5. *Theory of combat.*—In combat with a first-class power the navy would be considered the first line of defense and the army the second line. Man power is plentiful and cheaper than in most countries. The infantry is the arm superior and is trained for heavy marching, replacing cavalry where possible. The emphasis laid on infantry is shown in the relative strength of arms. Fifty-seven per cent of the active army and 67 per cent of all reserves are infantrymen.

Loyalty to the Emperor is the first law and to surrender an unpardonable disgrace. Each soldier must be a willing sacrifice, and each officer gladly sacrifices his command if considered necessary by higher authority.

The offensive is necessary to victory. Quick decisions are superior to prolonged actions. Success is to be won by closing with the enemy, and the desire to close must be stimulated by superior training in bayonet work.

Distinctive effect of artillery fire against personnel in close-order formations at long range is not fully appreciated. Great emphasis is laid on maintaining close-order formation in the approach march far beyond what was practicable in the World War. Battle formations lack depth both in the offensive and defensive.

Combat formations prescribed in Infantry Drill Regulations of 1922 show that the Japanese army is just beginning to appreciate the

influence of automatic weapons, the value of superiority of fire, and necessity for depth in battle formations.

6. *Distribution of forces:*

(*a*) *Normal distribution.*—Divisions 1 to 18 and the Guards Division distributed in 18 divisional areas in Japan proper; Nineteenth and Twentieth Divisions permanently stationed in Korea. One independent infantry brigade permanently stationed in Manchuria (to be abolished by April, 1925); 2 infantry regiments and 2 mountain artillery batteries permanently in Formosa; coast defense garrisons at seven points in Japan, one in Korea, two in Formosa, and one in Manchuria. Normal distribution is based on convenience of recruiting and mobilization at home and proper national defense both at home and abroad. There are 20,000 civil police in Korea and 10,000 Formosan guards in Formosa, both under civil administration.

(*b*) *Present distribution.*—Same as normal distribution except:

The Saghalien expedition, consisting of two or three thousand men from the Second Division, is stationed in the northern half of Saghalien Island.

The Sixth Division is temporarily detailed to stations in Manchuria and, with the independent infantry brigade normally stationed there, occupies the railway zones along the South Manchurian Railway as far north as Changchun. Total about 12,000 troops. About 200 police remain in Chientao.

In China there are about 1,200 Japanese troops at Peking, Tientsin, and vicinity, detailed from the Fourth Division.

7. *Efficiency and morale.*—Discipline is very strict. Morale is excellent, though army service is not popular. Training was formerly the German system, but lessons of the World War are now being gradually adopted. Training is generally thorough, though tending to destroy initiative. Mechanical sense is backward. In the execution of the Japanese theory of combat, the army possesses high efficiency and morale.

II. NAVAL.

8. *Strength.*—Under the terms of the Five Power Naval Agreement Japan retains 301,320 tons of capital ships, consisting of 6 battleships, including the *Mutsu*, completed in 1921, and 4 battle cruisers. The first retained capital ship to be replaced will be the battle cruiser *Kongo* in 1934.

The scrapping will consist of 12 battleships and cruisers over 11 years of age, 6 battleships and battle cruisers under construction and 8 capital ships planned but not yet laid down. Two battle cruisers are being converted into aircraft carriers. Japan's total tonnage of aircraft carriers may not exceed 81,000 tons. One air-

craft carrier completed and one merchant ship converted into an aircraft carrier now in commission.

Other Japanese warships not limited by the Five Power Naval Agreement:

	First line.	Second line.	Building.	Projected.
Cruisers	.....	5	.....	4
Light cruisers	10	6	10	1
First-class destroyers	25	.....	6	22
Second-class destroyers	34	12	7	.....
Submarines	33	5	19	22

There are 4,393 officers; 2,564 warrant officers; 421 midshipmen at sea in addition to naval cadets; 62,840 men; a trained reserve estimated at 37,728.

9. *Organization and Armament.*—The two latest battleships built are 33,600 tons, eight 16-inch guns and 23.5 knots speed. Four other battleships, each carry twelve 14-inch guns. The four battle cruisers each carry eight 14-inch guns and are of 27.5 knots speed.

The combined fleet in full commission consists of 7 capital ships; 8 light cruisers; 23 destroyers; 11 submarines (assisted by 2 second line cruisers and 2 tenders), and 2 airplane carriers to join soon. The above ships are about equally divided between the first and second fleet. The first foreign service squadron of one second line cruiser and 9 gunboats is assigned to Chinese waters.

There are four naval stations with dry docks and construction facilities and five secondary stations.

Naval aviation under the Navy Department has about 199 pilots, and 300 planes are reported serviceable.

10. *Distribution:*

(*a*) *Normal distribution.*—The ships of the fleet are based on Kure, Yokosuka, and Sasebo, but not according to any organization. The squadron in Chinese waters is usually based on Shanghai.

(*b*) *Present distribution.*—Same as normal distribution except a gunboat and surveying ship in the South Seas. Four destroyers were reported despatched to the Yangtze on June 9.

11. *Efficiency and Morale.*—Efficiency is good but not up to British or American standards. Morale is excellent. Japanese are good sailors but spend too little time at sea to be the most expert in training. Discipline is good. Naval aviation fair, but improving slowly under training of former British pilots.

12. *Geographic information affecting the strategy of the country.*—Japan is a mountainous island Empire of about 175,000 square miles, not counting Korea. The population of Japan proper is about 58,000,000 and the Empire 79,000,000. Harbors are many and the

Inland Sea affords complete protection to a Japanese fleet and enables it to readily pass from the Pacific Ocean to the Japan Sea.

Japan, with her many outlying groups of islands and spheres of influence on the Asiatic mainland is protected by a line of distant outposts which may serve as the first line of defense in case of active operations.

On the north, she is protected by the island of Saghalien and the Kurile Islands, which are Japanese. On the west, the Sea of Japan is controlled by Japan.

On the south, Japan has fortifications in Formosa, in the Bonin and Luchu Islands, and the defenses of Formosa Strait are known to be strong. Japan has the administrative mandate of the Caroline, Marshall, and Pelew Islands under the League of Nations. Only the east coast is without a complete protecting line of islands, and this unprotected line is comparatively short and so far from possible hostile naval bases as to be comparatively secure.

IV. SITUATION.

13. *Present Situation.*—Both army and navy officials continue to procure war supplies abroad and are seeking the best of the patents, processes, and formulas for substitutes as well as the services of skilled experts from many countries, more especially from Germany. Most of the money saved by army reduction is being invested in war material.

Army service is not popular with the people. Recent efforts to give military training to a few volunteers in a leading university had to be abandoned because of violent protest from the student body.

Since the Washington Conference the Japanese War Department has partially met the popular demand for an army reduction by releasing about 1,000 officers and 50,000 men and by shortening the length of time with the colors.

The navy, too, has reduced its personnel by about 13,000, and has decreased slightly the original naval-building program for cruisers, destroyers, and submarines. Construction work on capital ships has stopped.

The fortifications in the Pescadores, Formosa, Bonin, and Ryukyu Islands have been ordered to remain in status quo.

The garrison in northern Saghalien has been reduced to less than 3,000 men in the interest of economy and popular demand.

14. *Future situation.*—The Japanese Government desires the early ratification of the Washington Conference treaties by France and is anxious to further carry out the naval agreement when certain England and America will do the same.

Popular demand for further reduction than planned in the army is liable to be met very slowly and will be in the nature of a compromise. The efficiency of the Japanese Army is expected to suffer but slightly by the reductions being carried out, for better equipment replaces the former officers and men released.

The evacuation of northern Saghalien Island depends upon satisfactory negotiations with Soviet Russia and is not likely to occur voluntarily.

The abolition of the 5 battalions, which constituted the independent brigade in Manchuria, will be carried out by April, 1925. Two battalions were disbanded in April, 1923.

One result of the present Chinese boycott against Japan for failure to agree to the evacuation of Kwantung and abrogation of the 21 demands has been a clash on the Yangtze, June 2, in which several Chinese strikers were killed by Japanese sailors. Four Japanese destroyers are reported to have been sent to augment the Japanese naval forces. Though not liable to lead to war, the Chinese boycott may be a source of considerable trouble to Japan, resulting in the dispatch of further warships and frequent landing of small Japanese armed forces.

While Soviet Russian troops are not expected to invade the zone of the Chinese Eastern Railway, should they do so, Japan would probably back up Chang Tso Lin in throwing them out and a very complicated situation would arise.

JAPAN.

NAVAL AVIATION STATION AT OMURA.

June, 1923.

Omura Naval Aviation Station was inspected on May 28, 1923. This station is located approximately 1 mile due west of Takematsu Railway station and 3 miles northwest of Omura Railway station, both of these railway stations being on the main line Moji-Nagasaki, island of Kyushu. Takematsu station is 28.8 miles from Nagasaki by rail, but considerably nearer in a direct line, and about 15 miles southeast from Sasebo Naval Station.

The aviation field is approximately square, each side from one-half to three-fourths of a mile, Omura Bay forming the western side. The buildings and hangars are located in the southwestern corner near the beach.

The only buildings completed at the present time are administration and officers' quarters (same building), barracks to accommodate about 200 men, small storehouse, small power house (power

not yet being generated), with the usual small detached buildings for cooking, bathing, etc. Concrete foundations are completed for a large machine shop and a large storehouse, but no work is being done at present on the actual buildings.

Near these foundations are two canvas hangars, each capable of housing 4 planes.

At present there are at the station 4 training land planes and 2 service land planes. No sea planes.

Personnel consists of 9 officers and 150 enlisted men. Only one of these officers is a qualified pilot, and the commanding officer stated that this pilot had never flown the present type of service plane.

The landing field is a very good one, level and covered with grass, and there are no hills within several miles, which makes it a very good field for taking off and landing.

The beach is a very good one, sloping from the water up to the level of the field, 5 or 6 feet above high water. There is one concrete hauling-out way for seaplanes.

Beyond the routine work of the enlisted men, there was evidence of very little activity. About 25 laborers were weeding the landing field and probably 15 more doing small jobs about the buildings and hangars.

The commanding officer stated that Omura Aviation Station was an independent unit under Sasebo Naval Station, that it was intended to make it the most important naval aviation station in southern Japan, that a small breakwater was to be built, but that for the present fiscal year the ministry of marine had allotted Omura a very small amount of money.

JAPAN.

NAVAL NOTES.

May–June, 1923.

Note: From Japanese Press.

According to the Official Gazette, the Twenty-fourth Destroyer Division, consisting of the *Momo*, *Yanagi*, *Hincke*, and *Kashi*, left Sasebo June 9, 1923, for Shanghai.

These destroyers are being sent over as temporary reinforcements to the Japanese naval forces in China on account of the anti-Japanese disturbances at Changsha and other ports along the Yangtse.

The Japanese first-class destroyer No. 3 has been completed and the crew assigned.

In consequence of the recent boiler accident on the *Natori* the navy department decided to reconstruct the boilers of the *Kuma*, *Tama*, and *Kiso*. This is now being done at Kure.

It is not known the particular weakness that caused the accident to the boiler on the *Natori*, nor what way the boilers of the above-mentioned ships are being changed.

The cruiser *Isuzu* having been partially rebuilt by the Yokosuka Dockyard, returned to Uraga on May 31 and on June 1, 1923, was formally turned over to the navy.

The second-class destroyer *No. 10*, built at the Ishikawajima Dockyard, was delivered to the Japanese Navy at Yokosuka on May 10, 1923.

On May 28, 1923, while at anchor in Chinkai the captive balloon flying from the *Nagato* was struck by lightning and destroyed. The balloon had been left up during the night, and a squall came up about midnight, and it was impracticable to lower it during darkness. There was no one in the balloon when it was destroyed.

The second-class cruiser *Isuzu*, now under equipment at Uraga dock, is to undergo a partial reconstruction, and her completion will be delayed about a month. It is reported that the part to undergo reconstruction is the boilers.

JAPAN.

POLICY OF NEW MINISTER OF MARINE.

June, 1923.

Below is given a translation of an article appearing in the Japanese press June 20, 1923, as reflecting the policy of the new Minister of Marine Takarabe:

Admiral Takarabe, new minister of the navy, has outlined an important naval policy, part of which was defined by his predecessor, Premier Admiral Baron Kato, which he plans to carry out with quick dispatch. The new policy includes readjustment of auxiliary warships, expansion of the naval air force, improvement of equipment at naval stations and depots, elimination of supernumeraries, and organization of a more competent staff.

Admiral Takarabe intends to concentrate his energy on readjustment of auxiliary craft, as decided on at the Washington Conference. The former naval minister already had established a readjustment policy within the confines of the fixed ratio for capital ships and put it into effect, and Admiral Takarabe will follow his predecessor's policy.

The naval authorities state that the United States auxiliary warships program will directly affect Japan's naval strength if the bill is passed at the next session of Congress, and a change will have to be introduced in Japan's auxiliary warcraft program on the realization of the American scheme, it is reported.

The construction of auxiliary warships will be undertaken from the next fiscal year under the policy of Admiral Takarabe.

The expansion of the air force and improvement of equipment at naval bases will be undertaken in accordance with Premier Kato's policy. The reduction in personnel, which was started by Admiral Baron Kato last year, will be completed in December, and Admiral Takarabe intends to carry out the dismissals at the earliest possible date, as it is contended that further prolongation will demoralize the spirit of naval officers. The new naval minister will exert his best efforts toward educational training, which has become lax in recent years, and inculcation of the idea of the necessity of national defense, which has deplorably waned among the Japanese people, reports the vernacular press.

FRANCE.

AVIATION NOTES.

June, 1923.

The following notes upon French aircraft practice and opinion were recently obtained in conversation with Mr. Sabatier and Captain Grimault, of the design division (Bureau des Etudes) of the Service Technique de l'Aéronautique.

Several experimental airplanes have been built with variable area wings, but with indifferent success. In particular the Bille system was found mechanically satisfactory and may have useful possibilities, but it is now believed that the increased weight, complication, and expense involved by such construction are not warranted by any gain in performance which can be realized.

For military purposes airplane wings should be simple, quickly assembled, and free from delicate mechanism.

No effort has been made to improve the control of airplanes at low speed, as is reported by the British.

Winged radiators are not looked upon with favor for military purposes because of vulnerability.

No effort is being made to develop air-cool engines in large powers.

Bombing airplanes should be twin engine, with bomber in front, if bombing is the only function, and great precision is wanted. For general bombing purposes a single-engine tractor airplane is satisfactory, with the bomb sight in the floor of the fuselage to the rear of the bombs.

For military purposes the bombs are small and carried with axis vertical inside the fuselage.

For naval purposes torpedoes only are in the program, and the problem of a naval bomb has not been taken up.

A twin-engine airplane has obvious disadvantages, but these are accepted provided useful load is reduced so that flight can be continued with one engine only.

For multi-engine machines three engines are preferred, either all tractor or one central tractor and two pushers.

Tandem propellers have been found inefficient, but an effort is being made to reduce the loss by gearing down one of the propellers of the tandem arrangement.

For large seaplanes the flying boat is preferred. In fact, the large twin pontoon seaplane is considered an impossibility.

The following are the technical landing speeds allowable, which speeds do not make allowance for the skill of the pilot, who is usually able to land somewhat more slowly:

	Kilometers.
Avions de chasse	120
Avions de bombardement	80
School airplanes	60
Seaplanes	80

The Aveline stabilizer has been found excellent and especially useful for aileron control for large bombers.

Metal construction of airplane wings is favored, provided the outer skin is made of fabric which can be removed for inspection. The use of veneer and other wooden construction which involve glue is not favored because of deterioration in warm climates.

In fuselage design the Fokker type with welded tubes is not favored on account of the mild steel that is used for the tubes. It is considered preferable to use a high-strength steel tube or a duralumin tube with wires and pin fittings. These fittings may be made of duralumin stampings riveted up, or steel stamping riveted or welded.

No welding is done on duralumin. Duralumin may be used anywhere on military airplanes, but is not favored for seaplanes on account of corrosion. Difficulty has been had even though the duralumin on the seaplane was painted. The corrosion makes itself felt in less than six months and appears to be due to the failure of the paint. Duralumin for military airplanes is neither painted nor varnished. Parts which have been severely bent are annealed afterwards.

Oil shock absorbers are not being used and are considered experimentally only.

Fuel tanks are made of copper, pipe copper with flexible joints, with rubber outer connection arranged so that rubber can not get inside the pipe.

The alloy steel beams used by Dornier are considered inferior to duralumin, because too hard and subject to failure from fatigue.

Every new type of airplane is required to pass a static test to destruction, but in addition the contractor is required to submit strength calculations for the conditions of high speed, low speed, and upside-down flight.

These calculations are examined as a matter of interest, but the airplane is accepted or rejected on the basis of the static test. No calculation is made for the stagger wires and no calculation for torsion in the wing structure. I gain the impression that these calculations are not taken very seriously into consideration because no standard method for making them is issued to the contractors who are left to propose their own practice.

There appears to be no French book or other publication on the subject of stress analysis which Mr. Sabatier cares to recommend. The modulus of rupture for spruce is taken at $2\frac{1}{2}$ kilograms per square millimeter. No allowance is made for form factors.

Night flying equipment is said to be the same as during the war.

The situation as to aeronautical instruments in general is not advanced and is not equal to American developments at Langley Field. Instruments are developed either by private firms or by the service technique.

The chronometric type of tachometers is considered more accurate than the centrifugal type, but an electric type is now under test.

No definite opinion could be obtained as to the advantage of gearing for aircraft engines, as the subject appears to be a controversial one.

The French wish to use a supercharger but will not do so until a suitable variable pitch propeller is available, which is not now the case.

The French use straight gasoline for fuel and, although other fuels and mixtures have been used in the laboratories, there is no immediate intention of adopting any doped fuel.

The French have no interest in a very large engine, such as the Napier Cub. An experiment is being made with an engine inverted. The usual operating life between overhauls is 100 hours.

It is the practice to allow an angular movement of 20 degrees for ailerons, 25 degrees for elevators, and 20 degrees for rudders.

The French appear to have less information than ourselves on scale effect and effect of slip stream on performance.

The French have had no difficulty in the control of thick-winged airplanes.

They have observed performance of the Handley-Page torpedo plane, which they found excellent. They made wind-tunnel tests of a Handley-Page wing, but did not get results equal to those claimed by the inventor.

French airplane models are made without regard to the actual struts and wires, but instead have only one pair of square section struts and no wires. The drag of the struts is substracted from a model drag to which is added the theoretical drag of the true struts and wires.

The French are not satisfied as to any theory or method for propeller design, but expect to publish a pamphlet on the subject within a few months, in which use will be made of the model test of Professor Durand. An arbitrary allowance is made for interference between propeller and body, but no general rule is available.

ITALY.

STRENGTH OF AIR FORCE.

June, 1923.

In order to obtain definite and official information as to the proposed strength and construction program of the new Italian air organization a conference on this subject was arranged with the Commissariato of Aviation and the following data obtained:

(*a*) The program already actively initiated calls for 66 squadrons as the total strength of the Royal Air Force by June 30, 1924. The construction program calls for 1,600 machines in efficient condition by the same date, of which about 1,000 will be in actual service with the 66 squadrons. Italian squadrons have 3 flights, each flight consisting of 4 or 6 machines, depending on the specialty of the squadron.

Before the formation of the Commissariato of Aviation, the army air service had 25 squadrons and the navy 6. The army squadrons were reduced in personnel and their machines were greatly reduced in both numbers and efficiency, so that the first and immediate object has been the raising of existing squadrons to their full efficiency.

(*b*) The Commissariato of Aviation is to have a personnel strength of 12,000 by June 30, 1924, of which at least 9,000 will belong to the Royal Air Force.

ARGENTINA.

FLIGHT OF NAVAL PLANES.

June, 1923.

On 21 May a squadron of three naval airplanes started on a flight from Puerto Militar to Buenos Aires via Mar del Plata.

Two of the planes arrived in Buenos Aires on 22 May. The third, due to motor troubles, did not complete the trip.

The personnel of the planes was as follows:

Plane posts assigned.	Stage: Puerto Militar to Mar del Plata.	Stage: Mar del Plata to Buenos Aires.
B–7:		
Pilot and squad commander	Lieut. Commander M. A. Zar	Lieut. Commander M. A. Zar.
Second pilot	Lieut. E. G. Brown	Lieut. E. G. Brown.
Assistant pilot	Ensign E. del Rivero	Lieut. E. Velo.
Assistant pilot	Commander Gregores	Commander Gregores.
Radio officer	Lieut. H. Cappus	Lieut. H. Cappus.
Mechanic	Petty Officer R. Fraga	Petty Officer R. Fraga.
T–2:		
First pilot	Lieut. V. M. Padula	Lieut. V. M. Padula.
Second pilot	Lieut. C. Bertucci	Ensign T. N. Page.
Mechanic	Mechanic J. Savini	Mechanic J. Savini.
T–3:		
First pilot	Lieut. S. Leporace	Lieut. S. Leporace.
Second pilot	Petty Officer D. Verone	Petty Officer H. Bacigaluppi.
Mechanic	Petty Officer R. Bernasconi	Petty Officer R. Bernasconi.

The B–7 is an N. C. bombing plane. The other two are Curtiss scouting planes. All planes were fitted out with full war-time equipment, except bombs, and the flight was supposed to be made under war conditions.

The purpose of the flight was to give the pilots and pupils practical work in long-distance flying, scouting, observation, aerial photography, radio, and visual signals, etc.

Another object of the flight was to create a popular interest in naval aviation.

The planes left Puerto Militar	11.30 a. m. 21 May
Arrived Mar del Plata	3.20 p. m. 21 May
Left Mar del Plata	10.55 a. m. 22 May
Arrived Buenos Aires	2.25 p. m. 22 May

The route was along the coast and the total distance covered was about 800 kilometers.

The planes were drilled in open and closed formations, maneuvering by radio and flag signals, aerial photography, etc.

After each stage the pupils had to submit a complete history of the flight, giving the navigation data, photos, observations, comments on the operation and handling of the planes, and generally everything of interest.

Commander J. Gregores, the head of the Naval Aviation School at Puerto Militar, made the trip as a passenger on the B–7, and, according to the press, he is highly pleased with the results of the flight.

BRAZIL.

CONDITIONS IN RIO GRANDE DO SUL.

June, 1923.

Conditions in Rio Grande do Sul, previously reported, continue on the same footing, but late advices from that State indicate that

the situation is rapidly growing graver. The Federal troops are moving gradually into the interior and basing at important railway points. Their ostensible purpose is to insure no delay to the mails, and they are at present maintaining this without interference on the part of either faction. It is uncertain whether or not the Federal Government will dare to interfere, as it appears reasonably certain that at the first sign of interference on the part of Federal troops the revolutionists and the State troops may unite against the Federal troops. The situation is thus a three-cornered one, with the revolutionists and State troops actually engaged in guerrilla warfare against each other while the Federal troops maintain neutrality.

The last definite reports covering the numbers of soldiers involved credit each of the three factions with about 12,000 men, the State and Federal troops being completely armed and the revolutionists about half armed. The situation at present is not alarming, but it contains potentialities for much trouble.

It must be kept in mind that State Government in Brazil is much more independent and stronger than that of a North American State, that the doctrine of States rights is jealously clung to by Brazilian States, and that the three southern States of Brazil—Paraná, Santa Catharina, and Rio Grande do Sul—are not bound to the nation by strong ties. They are remote from the capital; communication is poor, and their climate, occupations, and industries differ considerably from those of the remaining States of Brazil.

Recent conversations with foreigners most cognizant of conditions in the State of Rio Grande do Sul indicate that the troubled political conditions there will not only continue but will probably increase. The established State Government under Medeiros still remains the stronger of the two parties, but it is understood that the treasury of the State Government is now practically exhausted. The revolutionists have practically no treasury, but they live off of the country, and so have practically no expenses. A considerable quantity of arms and ammunition is being supplied to both sides through various channels, and it is the opinion of those best qualified to know that in September the revolution will assume serious proportions. The big cattle owners are sending their cattle over the border into Uruguay, and most of the foreigners are selling as much stock as is possible, as they realize that should a serious revolution occur it would mean the loss of their property. September is the logical month for the revolution to assume serious proportions, for in July and August occur torrential rains, which block extended movements of troops. It is also worthy of note that payment for the cattle which are now being sold will not be made until about the first of September.

The Federal troops so far have apparently maintained entire neutrality and have confined their activities to insuring uninterrupted transmission of mails. They are also engaged in furnishing protection to various foreign business, particularly American packing houses, who have requested protection of the Federal Government.

CHINA.

AN INTERVIEW WITH CHANG TSO-LIN.

June, 1923.

Soon after the Lincheng bandit outrage an opportunity arose of arranging an interview with Chang Tso-Lin. It was carefully explained that I was in no degree officially in China and wished to have the interview with Chang Tso-Lin in an absolutely unofficial capacity.

Chang Tso-Lin is military governor of Fengtien and inspector general of Manchuria, but he prefers to call himself "Preserver of the Peace of the Three Eastern Provinces." As a matter of fact, he is dictator in Manchuria and is quite independent of the government in Peking.

The interview took place by appointment at 3 p. m., May 25, 1923, in General Chan Tso-Lin's large new foreign-style residence in Mukden. Besides Chang Tso-Lin, there were present an excellent Chinese interpreter and Mr. E. Carleton Baker. Mr. Baker was one time American consul general in Mukden and resigned to enter business in Mukden and become the foreign adviser to Chan Tso-Lin which position he still holds.

The entrance to Chang Tso-Lin's residence was through several courtyards, as is usual with Chinese residences, and was guarded by only one sentry, with probably half a dozen other soldiers in the guardhouse near by.

When Chang Tso-Lin entered the room into which we had been shown he looked far from the part of a war lord. Clothed in a long Chinese gown of brown brocaded silk, about 5 feet 6 inches in height, slender and delicate looking, he appeared more like an artist than a military dictator. His head, partially bald, is unusually small, as is his face also. His weight is about 130 pounds. He has a small, drooping mustache, oblique eyes that he habitually keeps half closed, a small but very firm chin, and a shrewd but distinctly oriental face. From his looks he might be 30 or 50 years of age (in reality he is 53). His hands are small and soft, with unusually long, tapering fingers—the hand of an artist.

After the usual exchange of compliments tea was served, Chang Tso-Lin lighted his "hubble-bubble," and others present lighted cigars or cigarettes, and politics became the subject of discussion.

Chang Tso-Lin said, "I understand America is sending troops to China as a result of the Lincheng outrage."

Mr. Baker remarked that the Japanese press in Mukden had so stated.

I replied that nothing was known of American troops coming to China, but that unquestionably the advisability of all the foreign powers strengthening their garrisons in China was being considered, and, so far as was known, there was no intention of America or any other power acting alone. That the question of foreign troops for China was being considered solely on account of the disorder in parts of China, as specifically demonstrated in the Lincheng outrage, about which the Chinese authorities in Peking seemed to be unable to accomplish anything.

Chang Tso-Lin said he had told Doctor Schurman, American minister in Peking, last summer just what he might expect as a result of the support given Wu Pei-Fu by America and Great Britain during the fighting around Peking. (Chang Tso-Lin's force was defeated in this fighting. He maintains this was largely due to these influences.) That since last summer the Peking Government and Wu Pei-Fu had done nothing to clear out the bandits or to put Chinese finances on a sound basis. Governmental officials, troops, police, etc., had not been paid, and things doubtless would get much worse, unless decided steps were taken to change the situation between Peking and the Yangtse-Kiang. That one year from now the situation was likely to be much worse. Bolshevism may spread among the Chinese, and the protection of foreign lives, property, and business interests will be impossible.

I stated that I felt sure that all the foreign powers were sincerely desirous of helping China to clear up the present chaotic condition. How, in the opinion of Chang Tso-Lin, could this best be done?

His reply to this was not very specific, but in general terms he thought the foreigners should remain absolutely neutral in a military sense, but give moral and financial support to the leader they thought best capable of establishing a strong government, capable of preserving order and protecting foreign interests. Above all things he thought the foreign powers should avoid becoming involved in China with military forces.

It was apparent that Chang Tso-Lin would be very sorry to see foreign troops in China, even operating against his arch enemy, Wu Pei-Fu. He seemed to feel that such action might consolidate the various Chinese factions and force him to join in a general contest

between Chinese and foreigners. This, of course, might compel Chang Tso-Lin to subordinate his own forces to those of Wu Pei-Fu.

With the idea of developing Chang Tso-Lin's desire, he was asked what he thought of the idea of foreign powers withdrawing recognition from the Government at Peking and recognizing as de facto governments the various provincial governments that had shown themselves capable of preserving order in their territory, this to be followed by the renewed recognition of the central government whenever the various provincial governments could get together and indicate that a government capable of preserving order could be established in Peking.

He seemed much interested but noncommittal, this being a suggestion apparently to which he had not given particular thought.

I stated that it was unfortunate but quite natural that the foreign diplomats in Peking should estimate a leader's ability, force, and strength inversely as his distance from Peking, which gave the leaders nearest Peking a big advantage in gaining the confidence and good will of the foreign diplomats in Peking. To this he heartily agreed, but had no suggestions to make as to how it could be remedied.

Chang Tso-Lin asked what was now the policy of Doctor Schurman.

I replied that, being unofficial, I was not in the complete confidence of Doctor Schurman and was unable to reply, but that I felt that Doctor Schurman, in cooperation with all the foreign diplomats in Peking, was earnestly desirous of helping China straighten out the present unsatisfactory situation, and it was probable that new policies toward China were in process of development.

Chang Tso-Lin said that in the meantime things were getting worse and nothing was being done. "Do not the diplomats in Peking realize," said he, "the longer a man sleeps the more dreams he has?" He then called attention to the fact that the history of China was repeated with instances of serious civil strife, and yet in the end the Chinese always got together. It would be bad for China and foreign interests if foreign powers should become entangled in the Chinese civil strife.

At one point Chang Tso-Lin rather went out of his way to take a fling at the Japanese. He understood clearly, he said, that the Japanese did not want China to become united, and that they were doing everything possible to discredit various foreign powers with the Chinese. Such a point was made of this that it rather gave the impression that Chan Tso-Lin was under Japanese influence in Manchuria but was very desirous that I should think otherwise.

At the end of the interview, which lasted about three-fourths of an hour, stated that as a private individual thought one thing was

certain; the American Government and people have sincere friendship for China and thoroughly realize that the best way to secure their interest and the interests of all foreigners is to safeguard the best interests of China. It only remained to find the best formula for doing this. To this Chang Tso-Lin gave hearty assent.

Chang Tso-Lin impresses one as strong, forceful, and clever, a good leader and a good hater. He does not, however, inspire one with great confidence. He has the reputation of caring for his friends very well. Since his unfortunate encounter with Wu Pei Fu's forces last summer, he has very materially strengthened his position in Manchuria. He has preserved order, disciplined his troops, safeguarded business interests, protected foreigners, and generally carried on the functions of government in a very creditable manner. Both foreigners and natives in Manchuria seem enthusiastic about him and consider him to be one of the strongest leaders in China. The country along the railroad seems prosperous and orderly, the stations are much cleaner after one leaves Shan-hai-kwan going east.

The troops appeared to be well disciplined and well uniformed. Despite this, it would seem to me to be the part of wisdom for Chang Tso-Lin to remain where he is merely as " Preserver of the Peace of the Three Eastern Provinces," rather than attempt at present to extend his sphere to Peking, or even south of the Great Wall.

CHINA.

REACTION OF POLITICAL SITUATION ON THE NAVY.

May, 1923.

The press in China has from time to time in the last few weeks contained items asserting the defection of the Chinese Navy and saying that portions of it have declared independence of the Central Government. While there is some ground for this statement the reports are, in my opinion, misleading.

The Chinese Navy has undoubtedly drifted away from the central government though its position is not one of independence either declared or actual. This is the result of the general loosening of the control of the Peking Government over all affairs in China. Peking exercises little control over the various provinces and its control of the navy has followed, to some extent, this tendency. The principal reason for this is the fact that the central government has been unable to pay the navy for months. The net result of this failure is that the navy is looking in all directions for sufficient funds to buy food, stores, and for the personal pay of the officers

and men. Any province or any governor who can furnish funds can more or less command the support of the navy in his district. A part of the navy has gotten what little pay it receives from Kwangtung and Kwangsi and these ships naturally remain in southern waters and are looked on more or less as southern supporters.

Recently some of the ships at Shanghai are reported to have declared themselves independent. As far as I can find out there has been no split in the relations of these ships with Peking and the probable thing behind the announcement, if it had any backing whatever, was that Admiral Lin Chien-chang, the commanding officer, took this method of announcing that the Peking Government must furnish funds to him or his ships would be at the service of whoever could do so.

With the present lack of funds practically no purely naval movements or exercises are taking place. Ships are sometimes used to transport soldiers from one Chinese port to another. I noted when I passed Admiral Lin's flagship on May 12, as she was lying off the Kiangnan Arsenal at Shanghai, that she seemed in a very well kept condition, and not uncared for as so many of their vessels are.

GERMANY.

MORE OF THE BURNEY AIRSHIP SCHEME.

June, 1923.

Commander Burney, at present a member of the British House of Parliament, formerly of the British Royal Navy and the inventor of the paravane, in company with an engineer, a Mr. Wallace, chief of Vickers airship design staff, and a lawyer, have during the last week been negotiating with the Zeppelin Co.

Commander Burney is an airship enthusiast and entered Parliament a short time ago to promote an Imperial airship line between England and the colonies. He apparently has big financial interests in Britain backing him, notably Vickers and the Shell group, and favors a scheme known by his name "The Burney Scheme," whereby these financial interests will construct rigid airships, air ports, etc., and operate a commercial airship line between England, India, and various other colonies. This financial group to be insured against loss by the British Government and in return the ships, harbors, etc., to be turned over to the Government in case of war.

The British Admiralty has never gracefully accepted the decree that the Air Ministry should control airships, and now it appears that the Admiralty is willing to forego a new cruiser and set aside £1,000,000 (sterling) toward this project, provided in time of war the Admiralty has control of the airships. This idea has not been

acceptable to the Air Ministry, but it appears that an agreement is about to be reached.

Commander Burney informed the writer that he believed the matter would be satisfactorily settled in the near future.

Conversations with Zeppelin representatives reveal that Commander Burney is here to execute a contract with the Zeppelin Co. to furnish technical assistance in the construction of rigid airships in England, which confirms a conversation held with Major Scott on his visit to Friedrichshafen in April of this year.

The negotiations appear to be somewhat lengthly and the Zeppelin Co. does not appear to be satisfied with the way they are going. Their representatives have stated that any agreement they may arrive at now can only be preliminary and subject to the adoption of "The Burney Scheme" by the British Government. The impression was gained that the Zeppelin Co. has no intention of binding itself to an unfavorable bargain, particularly as any agreement now can only be preliminary.

The scheme is also dependent upon the appropriation of additional funds by Parliament to be used as a subsidy, similar to the subsidy given British merchant ships. The backers of the project expect Parliament to act favorable in the matter in the near future.

SPAIN.

SEVILLE-BUENOS AIRES AIRSHIP SERVICE.

June, 1923.

The proposed airship service between Seville and Buenos Aires had its inception in the middle of 1920, when the King of Spain asked Major Herrera to study a scheme for an airship line between Spain and South America. After the King had approved of the scheme it was presented to the League of Nations by General Echegue, director of the Spanish Army Air Service, and a company was formed in Spain with Spanish capital. This company called in the services of the Zeppelin firm and obtained the exclusive right to the use of Zeppelin airships for communication between Latin American countries and between these countries and the rest of the world.

A technical commission was next formed by the Zeppelin firm to draw up data with respect to the line. This commission consisted of Messrs. Eckener, Limpert, and Scherz, the president of this commission being Major Herrera. A visit was made to the Argentine Republic to collect the necessary data there.

There will be two terminal airdromes, one at Seville and one at Buenos Aires, with sheds, workshops, hydrogen-generating plants, storage facilities for hydrogen, gasoline, and oil, offices, dwelling accommodations, etc. A landing ground for emergencies or for a secondary air line will be laid out in the Canary Islands, and another emergency landing ground at Cordoba (Argentina), both with supplies of hydrogen, fuel, and oil.

Three airship sheds will be erected at Seville. One will be 300 meters (984 feet) long, 90 meters (295 feet) wide, and 50 meters (164 feet) high. This shed will be sufficiently large to accommodate two 250,000 cubic meter (8,825,000 cubic feet) airships simultaneously. A second one, for construction and assembly of the airships, will be 300 meters by 50 meters by 50 meters. A third shed, for a school airship, will be 160 meters (525 feet) long, 35 meters (115 feet) wide, and 32 meters (105 feet) high. On account of the regularity of the winds in the neighborhood of Seville, all of these sheds will be of the fixed type.

Owing to the variability of the winds at Buenos Aires it will be necessary to erect a shed which will permit taking the airships in and out with the wind in any direction. This will necessitate either a circular shed or one of the revolving type together with a fixed shed. The revolving shed will measure 280 meters (918 feet) long, 50 meters wide, and 50 meters high, and the fixed shed 300 meters by 50 meters by 50 meters. As a more expensive alternative, a circular shed with about 16 doors would have the advantage of avoiding the heavy mechanism and circular rails necessary with a rotating shed. If this circular shed had a diameter of 350 meters (1,148 feet) it would hold three airships.

The following is a summary of the estimated cost of the terminal ports and construction plant:

	Pesetas.	Dollars.
SPAIN.		
Airport	14,000,000	2,134,000
Living quarters	600,000	92,000
ARGENTINA.		
Airport	34,000,000	3,646,000
Living quarters	600,000	92,000
Total	39,200,000	6,184,000
Construction works (Seville)	10,000,000	1,532,000
Living quarters (Seville)	900,000	132,000
Total	10,900,000	1,670,000
Small hangar for school airship in Spain	1,500,000	230,000
Supplement for circular hangar instead of fixed and rotating hangars in the Argentine	21,000,000	3,231,000

The anticipated cost of building the three 135,000 cubic meter airships to be used on the service is 15,000,000 gold marks ($3,750,000.)

DESCRIPTION OF AIRSHIPS.

The airships proposed for the Seville-Buenos Aires service are three Zeppelin airships of 135,000 cubic meters (4,765,000 cubic feet) capacity. This type bears the factory number E–296. In order to avoid excessive dimensions calling for vast ground installations, the design in question is for an airship of medium speed permitting the attainment of great lift with comparative small dimensions. It is similar on a larger scale to the Zeppelin ZR–3 being constructed for the United States Navy at Friedrichshafen.

The hull of the airship is of the usual Zeppelin type containing 17 gas cells. The power plant consists of nine 400-horsepower Maybach 12-cylinder engines, seven of which are used for normal running, the remaining two being kept in reserve. It is understood that these engines will be designed so as to reverse, thus dispensing with a separate reversing gear. The engines are distributed in nine cars, four on each side of the longitudinal axis and one placed on the center line aft. The propellers are of wood, aluminum tipped along the leading edges.

The control and passenger car is placed forward and is integral with the hull. The rudder control is in the nose of the car on the center line and the elevator control on the port side. The control surfaces are actuated by means of handwheels acting on cables passing over rollers along the walking way of the keel. Coupling devices make it possible to operate one or several of the control surfaces at will. There is an emergency control station in the walking way near the aft machine car. Orders are transmitted to the engine cars and crews quarters by means of the telegraph which is placed on the starboard side of the control car. Aft of this car is the captain's cabin on the starboard side and the sound-proof wireless cabin to port. The range of the wireless set is 1,250 miles. In addition there is a direction finding apparatus.

The passenger car which is a continuation of the control car is 108 feet long, 16.4 feet wide, and contains on each side of the central passageway five sections for four persons each. By day, the passengers are accommodated on sofas and by night in lower and upper berths. Aft of the passenger compartments, is a saloon accommodating twenty persons at four tables. Aft of this again are the kitchen and lavatories and in the stern a small luggage room.

The crew is accommodated in the walking way, the officers near the control car, and the mechanics and remainder of the personnel amidships. In the walking way is also provided space for freight, luggage, and mail.

The characteristics of the E–296 are as follows:

	Cubic meters.	Cubic feet.
Capacity	135, 000	4, 765, 000
	Meters.	Feet.
Length	250	820
Maximum diameter	33. 8	108. 5
Maximum height (including shock absorber)	37	121. 4
Maximum width (with propellers horizontal)	36	118. 1

With 760 millimeters barometric pressure, a temperature of gas and air of 27° C., 60 per cent relative humidity of the air and specific gravity of the gas of 0.1, the airship has a lift of 141,500 kilograms (311,950 pounds).

The total useful load is 75,000 kilograms (165,350 pounds) and the commercial load is 15,000 kilograms (33,070 pounds). The commercial load is made up of 40 passengers, crew, freight, mails, and supplies. It can be carried for a distance of 12,000 kilometers (7,460 miles) at a speed of 110 kilometers per hour (68.4 miles per hour).

With seven engines running at full power, a speed of 120 kilometers per hour (74.6 miles per hour) should be attained, and with all nine engines running the maximum speed of 132 kilometers per hour (82 miles per hour) will be reached. The cruising speed, however, may be taken as 110 kilometers per hour.

DESCRIPTION OF THE SCHOOL AIRSHIP.

In addition to the three large airships, a smaller airship proposed for use between Seville and the Canary Islands and for instructional purposes is actually under construction at Friedrichshafen. This airship is known as model E–298 and is very similar to the *Bodensee* on a larger scale. It will accommodate 16 passengers, 16 pupils, and 3,000 pounds of luggage, freight, and mails.

It has three Maybach 400-horsepower engines arranged in two wing cars amidships and one car on the center line aft. The control and passenger car situated forward is integral with the hull. The control compartment is especially arranged for the instruction of pupils. The wireless telegraph station is on the port side. The passenger car accommodates 16 persons, and behind it are the dining saloon, kitchen, lavatories, etc. The cabins for the crew and pupils are in the walking way in the keel where are also accommodated the luggage, freight, and mails.

The characteristics of the E–298 are:

	Cubic meters.	Cubic feet.
Capacity	30, 000	1, 059, 000
	Meters.	Feet.
Length	144	472
Maximum diameter	21. 1	69. 2
Maximum height	26. 6	86. 9
Maximum width	22. 0	72. 2

	Kilograms.	Pounds.
Total ascensional force	31, 500	69, 440
Total useful load	12, 000	28, 660
	Kilometers per hour.	Miles per hour.
Maximum speed	125	77. 7
Cruising speed	110	68. 4
	Hours.	
Duration at cruising speed	30	

There will be two simultaneous flights per week in each direction on the Seville-Buenos Aires line. It is estimated that the outward flight will take 3 days 16 hours and the return flight 4 days 6 hours. The estimated fare between Seville and Buenos Aires is 6,000 pesetas ($920).

It is proposed that the small airship will make a weekly or bi-weekly flight to the Canary Islands, the outward journey taking about 14 hours. As a stop of only one or two hours would be made at Teneriffe, no shed would be needed there.

In connection with this airship service Major Herrera has designed a new mooring mast. This mast sinks into a socket in the ground when not in use. For mooring a line is dropped from the airship and attached to a coupling gear on the mast. When the airship is secured the mast is raised. By means of a door in the top of the mast connection is made with the forward end of the airship car.

RUSSIA.

TRANS-SIBERIAN RAILWAY.

June, 1923.

The following information has been received from an American who crossed the Trans-Siberian Railway in May of this year:

The line is now open from Moscow to Harbin and from there to Mukden, Peking, and Tokyo. The Moscow-Chita express leaves Moscow once a week, on Thursdays. It consists of about ten cars, including sleepers and a diner. It goes by the northern route—Vologda, Viatka, Perm, Eketerinburg, Tiumen, and Omsk. From the last point there is but one route. It is said that the southern line from Moscow via Samara, Ufa, etc., is closed on account of washouts. Whether this is true or not can not be learned.

The train service is excellent and the express makes good time. From Moscow to Chita takes 7½ days. The service from Chita to Harbin is not so good. It takes 21 hours from Chita to the Manchurian border and a total time between Chita to Harbin of 2½ days—ten days total Moscow-Harbin. Two days from Harbin to Peking. While the train is a fast train, bridges were taken usually at a reduced speed, though they seem to be permanent structures. Passengers were not permitted to ride across the bridges on the platforms, but were required to stay in the cars, and the windows were

kept closed. The larger bridges have a permanent guard of soldiers, but the smaller bridges are not guarded, but at both ends of the bridge barb-wire entanglements have been installed. It was further stated that the custom of requiring passengers to remain inside the coaches is the same as that in force on crossing the Volga at Suizran in Russia.

The part of the railway line around the southern end of Lake Baikal is apparently in very good condition, as it was taken at high speed, though very crooked and full of tunnels. The double tracks of this section of this line are close together rather than separate as they are in most of the rest of the line. The same is true after crossing the Manchurian border, the tracks here also being alongside of each other.

Few soldiers were in evidence along the line at any place except where present at the larger bridges. Terroristic methods are still practiced to some extent and at Chita a practice night raid occurred with plenty of soldiers.

The border line between Soviet and the old Far Eastern Republic is a small station called Tataurova which is between Lake Baikal and Verchne Udinsk. At this point passports were inspected but there was no customs inspection.

The trains from Harbin south are running regularly and no difficulty is experienced by the traveler. The train service is far from good.

The regular service is in operation between Moscow, Samara, Orenburg, Eletzk, and Saksaulskaia on the Aral Sea and Tashkent. Regular trains leave Moscow three times a week and these occasionally carry a sleeper. The general equipment of the line is not so good as the Trans-Siberian but is about the same as most Russian lines of the present time. The roadbed is not in very good condition and is a single-track line. Train service is sometimes interrupted but the means of repair is still fair, as may be seen by the fact that when 20 versts between Samara and Orenburg were washed out in the spring of 1923 service was reestablished inside of a week or two.

OFFICE OF NAVAL INTELLIGENCE.
NAVY DEPARTMENT.
Washington, D. C.

MONTHLY INFORMATION BULLETIN.

NUMBER 9—1923.

SEPTEMBER, 1923.

DISTRIBUTION:

In general: Bureaus of the Navy Department; all force commanders; all commanding officers of capital ships, the larger patrols, destroyers, and submarines.

WASHINGTON
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CONFIDENTIAL.

OFFICE OF NAVAL INTELLIGENCE.

MONTHLY INFORMATION BULLETIN.

NUMBER 9—1923—SEPTEMBER, 1923.

FOR CONVENIENCE IN ROUTING.

Officer.	Initials.	Date received.	Date forwarded.
Captain			
Executive Officer			
First Lieutenant			
Navigation Officer			
Gunnery Officer			
Communication Officer			
Engineer Officer			
Medical Officer			
Supply Officer			
First Division Officer			
Second Division Officer			
Third Division Officer			
Fourth Division Officer			
Fifth Division Officer			
Marine Officer			

The material for the Bulletin is largely derived from service sources and its interest and value are correspondingly dependent upon the number and character of the reports received by the Office of Naval Intelligence from our own officers. In this connection the observations of officers afloat are of great value, particularly if the reports rendered are drawn up in accordance with existing intelligence instructions.

While political and economic information is undoubtedly of much use, the collection of military information should come first in the intelligence work of cruising ships.

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GREAT BRITAIN.

GOVERNMENT DECISION ON RELATIONS OF THE NAVY AND THE AIR FORCE.

August 22, 1923.

The prolonged and spirited debate between the British Admiralty and the air force as to whether or not the navy should have control of naval aviation has resulted in the Government decision in favor of a single air force.

At the outbreak of the war in 1914 the air forces of Great Britain consisted of the Royal Flying Corps under the War Office and the Royal Naval Air Service under the Admiralty. When war broke out the War Office was responsible for the aerial defense of the country, but as all squadrons of the Royal Flying Corps were engaged in France the Admiralty was assigned the responsibility for home defense against aircraft.

In August, 1917, due to competitive bidding in the market by the army and navy, and the distribution and application of the resources of the country, not according to needs, but according to the relative skill and quickness of the different departments in getting hold of the available resources, and also to the need of building up a reserve for a planned independent aerial attack against Germany, the Government of the day decided on the principle of a separate air force. The independent air force was constituted on June 8, 1918. The Royal Air Force since then has been a separate department, although the Secretary of State for Air was not made a member of the Cabinet until early in the present year, 1923.

Generally speaking, the Admiralty did not favor the establishment of the Royal Air Force, but did not make any strenuous objections at the time. Soon, however, friction between the two services began to develop due to lack of cooperation, lack of definite line of demarcation relative to cognizance of men and materials, and clashes of authority between the navy and Royal Air Force personnel aboard carriers.

The air force about two years ago requested the Admiralty that 100 officers be seconded to the Royal Air Force for training. Nine naval officers volunteered, two of these were found unfit, and four were "axed" in pursuance of recommendations of the Geddes com-

mittee. The "seconded" naval officers were required to wear Royal Air Force uniforms, which created another minor point of friction. The Admiralty, as a result of the unsatisfactory condition of naval aviation, began to campaign for a separate air force.

Due to pressure on the Government by the supporters of the navy, the Government on March 16, 1922, stated that it had been decided to appoint a subcommittee of the Committee of Imperial Defense to examine closely into the system of cooperation between the navy and the air force. Since that time the debate between the supporters of the Admiralty and of the air force has been spiritedly and incessantly carried on both in Parliament and in the newspapers. The committee appointed in March, 1922, sat but never reported, as the Government fell before a decision had been reached.

On March 5, 1923, the Prime Minister of the new Government announced he had decided to appoint a committee to inquire into the cooperation and correlation of the three services from the point of view of national and imperial defense and to decide whether the navy should have sole control and responsibility for its own air arm. The committee appointed consisted of Earl Balfour, ex-First Lord of the Admiralty; Lord Weir, ex-Secretary of State for Air; and Lord Peel, who appears to have been the neutral member.

The First Lord of the Admiralty, in introducing the navy estimates, 1923–24, announced that 140 officers and 1,000 men who would have otherwise been discharged were being retained to take over the air arm in event of a decision favorable to the navy. It is probable that these men will now be discharged.

An examination of the report seems to indicate that the system decided upon is the same as the present system, with definite provisions that men, officers, and material of the fleet air arm can not be removed therefrom without the consent of the Admiralty, or a decision of the Cabinet, and in decisions clearing up the question of discipline, uniform, and authority.

Before the official publication of the decisions the gist of the report leaked to the papers, and it was rumored that Admiral Beatty would resign.

The recommendations of the committee which have been adopted by the Government and announced as the Government's decision follow:

REPORT OF THE SPECIAL SUBCOMMITTEE.

Part I.—The General Problem.

1. Your subcommittee were instructed to enquire into the relations of the navy and the air force as regards the control of fleet air work, and on this point they have taken a great deal of evidence from witnesses representing both departments.

In addition to this, two of our members, Lord Peel and Lord Weir, accompanied by Sir Maurice Hankey (secretary), paid a visit to the aerodromes in the neighbourhood of Portsmouth and the aircraft carriers *Argus* and *Eagle*.

2. In the course of the somewhat acute controversy between the two departments, a very large number of points have been raised whose importance is subsidiary and illustrative. This was inevitable and probably desirable, but the broad principles lying at the root of the policies respectively advocated by the contending parties are perfectly intelligible, quite apart from the detailed arguments and counterarguments by which they are supported.

3. To the Air Ministry was given in 1917 control over the air forces of the country. The department was at one stroke placed on a par with the Admiralty and the War Office, for, though aerial warfare is a growth of yesterday, it was felt that its rapidly increasing importance required an organisation which would ensure its development under the most favourable conditions. In these circumstances it was only natural that the Air Ministry should strongly object to being partially dismembered so soon after it had been brought into existence, the more so as in the early days of this dispute the severance of the fleet air arm from the rest of the air force mean an immensely larger proportionate loss than it would mean at the present moment. But though the injury involved in the complete removal from their jurisdiction of the fleet air arm is relatively diminished, it remains in principle the same and, if carried out to its logical conclusions, would, in the opinion of the department, lead to many administrative difficulties and much overlapping, while in the region of supply and research it would hamper progress and increase expense.

4. The Admiralty case is not less worthy of most serious consideration. In their view a fleet air arm is now as necessary to a fleet as cruisers, destroyers, or submarines. Aerial reconnaissance and aerial "spotting" are as strictly naval operations as gunnery, torpedo work, and wireless telegraphy. It seems to them intolerable that, while they are responsible for the safety and success of our battle fleets, the air work on which that safety and that success in large measure depend should be performed by persons belonging to another service, imbued by different traditions and looking for support and promotion to a different department.

5. Your subcommittee have the greatest sympathy with both these points of view, and they have given much anxious thought to the question of how they can best be dealt with. They do not think that the present system can remain altogether unchanged; neither do they think it possible to sever completely the air organisation which does work for the fleet from the air organisation which is responsible for home defence against air attack and for cooperating with the army in other theatres of operation. A course somewhere between these two extremes is the one we recommend, but before describing our suggestions in detail it seems desirable to give a brief sketch of the system now in course of development along the line where the two services come into contact.

Part II.—The Present System.

6. *The general system.*—The general system is that the Air Ministry raises, trains, and maintains the fleet air arm. At sea the fleet air arm comes under the operational and disciplinary control of the Admiralty, which designs, builds, and maintains the carriers.

The functions of the fleet air arm comprise aerial reconnaissance, naval gunnery spotting, bombing, and fighting.

The fleet air arm operates at sea from a carrier, which is a floating aerodrome. In addition, in time of war, capital ships and cruisers will embark aeroplanes, but at present the risk to personnel and *matériel* is too great to justify this in time of peace.

Air force squadrons also operate over sea from shore bases in cooperation with the navy, but these are not at present in question.

The numbers of the Royal Air Force personnel at present employed with the fleet air arm are 115 officers and 681 other ranks.

7. *Policy.*—Naval air policy is concerted by the air staff and Admiralty war staff. Initiative may come from either side, but naval officers of high rank do not, under the present system, have many opportunities of obtaining experience or training in air matters to fit them for this work

8. *The coastal area.*—Apart from matters of policy, liaison is secured between the navy and the air force by a special machinery termed the "coastal area" organisation. This is provided by the Air Ministry for the purpose of administering the fleet air arm on land, subject to the general control of the Air Ministry. The coastal area is commanded by a senior air force officer (the present occupant is an ex-naval officer) who is responsible for the maintenance at full strength of the personnel and matériel of the fleet air arm, and for its special training for naval purposes. He is the adviser to the Admiralty on air matters other than policy, and communicates directly with the commander in chief, Atlantic Fleet, on all matters connected with the fleet's requirements.

9. Under the air officer commanding the coastal area are two group captains, with headquarters at Leuchars (the Forth) and Lee-on-Solent, respectively. In the case of larger operations involving the embarkation of aircraft or the carrying out of operations from shore bases, the naval commander in chief notifies his requirements direct to the air officer commanding coastal area. For minor operations he deals directly with one or other of the group captains.

10. Corresponding arrangements are made at Malta for the Mediterranean Fleet.

11. *Position on board carriers.*—As soon as the air units are on board the carriers they come under the orders of the naval commander in chief, and are altogether outside the control of the coastal area organisation, which is then, as we have already noted, only responsible for keeping units up to strength in air personnel and matériel. The orders for flying are given by the naval commander in chief (who has an air force officer on his staff) to the captain of the aircraft carrier, who is, of course, a naval officer, and he gives his orders to the senior air force officer on board. The Royal Air Force personnel are responsible for the cleanliness and maintenance of their own quarters and some other parts of the ship, such as the aeroplane deck. They can be employed on the general duties of the ship. Difficulties have, however, been made in regard to the performance of particular duties, such as the training and use of air force personnel for passing ammunition to the guns.

12. A certain amount of cooperation is practised between the skilled mechanics of both services. The Royal Air Force may, for example, utilise the services of the ship's blacksmith for certain repairs to aeroplane engines, and the Royal Air Force may undertake repairs to motor-boat engines. Such cooperation is naturally limited by the highly specialized training which is inevitable in each service.

13. *Supply of personnel.*—The Air Ministry are responsible for the supply of officers and other ranks for duty with the fleet air arm, with the exception of certain naval officers, who, after training in air force establishments, are employed as observers in "spotting" machines and some naval ratings employed as wireless telegraph operators.

14. It is of importance to note that the Royal Air Force possesses a number of officers who were formerly in the Royal Naval Air Service, many of whom were trained as naval officers. The senior positions in the fleet air arm are at present largely filled by these officers. The original intention of the Air Ministry was that, in order to replace these, some 30 per cent. of the officers of the fleet air arm should consist of naval officers seconded for a term of years. Unfortunately, however, only a very few naval officers responded to the invitation to volunteer for this service.

15. It may be worth noting that the general system for the supply of air force officers to meet future demands is divided into two classes—

(*a*) Officers holding permanent commissions, and

(*b*) Officers holding short-service commissions.

16. Officers holding permanent commissions, on leaving Cranwell, are given the choice of the particular branch in which they wish to specialise. Those selecting the naval side will, in the first instance, do four years with the fleet air arm. They may then serve with other branches, including courses of instruction, for a term of years in order to gain wider experience, but will ultimately return to the naval side again. This practice will ensure that there will always be a proportion of senior officers in the Royal Air Force with naval experience obtained in the fleet air arm.

17. A proportion of the officers holding short-service commissions for five years, after receiving their initial training of one year, are posted for duty with the fleet air arm, and do the whole of their service with that branch. On completion of their five years' service they are posted to the reserve for five years, when they are earmarked as reserves for the fleet air arm in case of emergency.

18. The Air Ministry endeavour to retain the personnel with the fleet air units for the normal term of service (*i, e.*, four years), but exceptional cases arise when it is impossible to allow them to remain for the whole of that period.

19. *Training.*—The whole of the primary training of flying personnel, whether their future work is to be on sea or on land, is carried out by the Air Ministry. No criticisms of it have been brought to our notice, and we do not propose to refer to it again. The later and more specialised training of the fleet air arm is partly conducted in the carriers and partly on land at technical schools maintained by the Air Ministry at certain naval ports. Apart from their initial training, before they are embarked, the air detachments of carriers use their establishments for training, when not required by the naval commander in chief for exercise. It will be seen therefore that as things are at present these establishments are used entirely for the purposes of the fleet air arm or for shore-based aircraft cooperating with the navy. The air force training schools in the Portsmouth area work in close touch with the naval gunnery and torpedo schools. Behind the establishments devoted exclusively to training for the fleet air arm are a series of technical centres maintained for the air force as a whole, the resources of which are available for the fleet air arm.

20. *Design and research work.*—New design, experimental, and research work to meet naval requirements are carried out by the Air Ministry after consultation with the Admiralty. The Admiralty, after consultation between the two departments, put forward their suggestions as to the types of machines which they require, and the Air Ministry design such machines, as far as is practicable from the point of view of aerodynamics and similar technical consideration. The Air Ministry draw up the specification of the type required and call for designs from the trade, and the Admiralty are kept fully

informed of the progress made during the whole process and after the trials have been caried out.

21. The Navy are not directly represented on the design, experimental, or research branches at the Air Ministry, but the Air Ministry utilise the services of a certain number of ex-naval officers, who have now transferred to the air force, in these departments, and also receive reports as to defects in design and performance of machines from air force officers serving with fleet air units, thus ensuring that due weight is attached to the user's point of view in the modification and improvement of design.

22. There is also in existence an interdepartmental committee called "The joint technical committee on aviation arrangements in His Majesty's ships," which consists of representatives of the Admiralty and the Air Ministry. Its functions are to examine the technical problems which may arise with regard to the suitability of the types of aircraft intended for embarkation on board carriers and the modifications and improvements which can be effected on board the carriers themselves. It is clear from the evidence that new uses of aircraft involving possibly new types can be proposed either by the Admiralty or the Air Ministry, and that the latter give full consideration to all suggestions which may be put forward by the Navy.

23. *The supply of matériel.*—At present the Air Ministry are solely responsible for the supply of all matériel connected with aircraft. An establishment of the machines required for the fleet air arm has been agreed upon between the Admiralty and the Air Ministry, and the latter is responsible for maintaining that establishment at full strength with its correct proportion of machines in reserve, the necessary spare parts, and the various shore organizations required for its maintenance. This establishment is at present limited by the number of aircraft carriers in commission in the Navy, but the Air Ministry have made the necessary arrangements in their programme of construction to increase the number of machines up to the number which will be required when the two new aircraft carriers are completed in 1923–24.

Part III.—Recommendations.

24. We have endeavoured to explain, in the first place, the general nature of the objection felt by the air department to any important change in the existing system and by the Admiralty to its maintenance. We have also given a full account of the system as it has been developed up to the present moment. We now propose to turn to the future and make certain suggestions which, as we hope, may go far to reconcile the contending parties and to make material improvements in the existing system.

25. Our task is materially lightened by the fact that, in the course of discussions before your sub-committee, a larger measure of agreement was found possible on certain aspects of the problem than had at one time seemed likely.

26. In the first place, it appeared that on some important points the practice, though not the written law, of the air department was already in conformity with the wishes of the Admiralty. For example, the Admiralty are very desirous that the group captains in contact with the Navy should be officers with experience of the fleet air arm.

First Recommendation.

Broadly speaking, the Air Ministry take the same view, and we recommend that it be made part of the settled practice of the Air Ministry to con-

sult with the Admiralty before such appointments are made. We think the same principle should be extended to the air officer commanding the coast defence area and the senior air officer on board a carrier.

27. The Admiralty desire that the Air Ministry shall provide all the matériel which they demand. This, we believe, has always been the intention of the Air Ministry.

SECOND RECOMMENDATION.

We think it should be formally laid down, and that, in the event of the Air Ministry for one reason or another not carrying into effect the wishes of the Admiralty, there shall be an appeal by either party to the committee of imperial defence.

28. We have no reason to believe that there is any fundamental difference of opinion between the two services with regard to certain questions of discipline, such, for example, as those which might arise when a member of the air force leaves the ship, where he is under the command, for every purpose, of the captain, and goes for training to the aerodrome, which is under the control of an officer of the air force.

THIRD RECOMMENDATION.

But though there are no differences of principle, there are certain obscurities which it would be desirable to clear up, and we therefore recommend that the two departments should, in collaboration, draw up a code of regulations which would make clear the relations between them at all points where they come in contact.

29. In all the cases that we have so far enumerated there may have been misunderstanding, but there has not been at any time, so far as we are aware, any difference of principle.

30. We now turn to a class of cases where, as a result of discussion before your subcommittee, the air department have shown a disposition to meet Admiralty views. The first of these relates to the framing of the naval estimates. The Admiralty desire that in these estimates should be included the cost of the fleet air arm.

FOURTH RECOMMENDATION.

The air department are of opinion that technically this course would be inconvenient, but have no objection to it in principle. Your subcommittee are of opinion that this question should be settled by the treasury in consultation with the two fighting services.

31. The Admiralty require that the air force on board ship should be completely under the orders of its captain. Your subcommittee are of opinion that, inasmuch as all the airmen on board ship are under the naval discipline act, this, in theory, is already provided for, but undoubtedly in the minds of those chiefly concerned some obscurity hangs over the subject. This, we think, should be explicitly cleared up.

FIFTH RECOMMENDATION.

The position of a member of the air force when on board ship does not differ in law, and should not differ in practice, from the position of, say, a marine.

SIXTH RECOMMENDATION.

32. In order fully to carry out the policy laid down in the preceding paragraph, we recommend, and have reason to believe that the Air Ministry will accept the principle, that all reports on officers of the fleet air arm, whether confidential or otherwise, should be signed by the captain of the ship and passed through the naval commander in chief to the air officer commanding the coastal area.

SEVENTH RECOMMENDATION.

33. A further point which should be dealt with under this heading is one on which the Admiralty have expressed considerable anxiety and on which we have reason to believe that the air force are prepared to meet their wishes. The Admiralty are apprehensive lest, in time of war or other emergency, the Air Ministry might withdraw from the Navy units of the fleet air arm and use them for other purposes. In respect of this we recommend that it should be definitely laid down that the personnel, matériel and reserves of the fleet air arm should not be withdrawn by the Air Ministry without either the consent of the Admiralty or a decision of the cabinet.

34. Before concluding this class of questions we must take note of a complaint made by the Admirality that on board the carrier there is a good deal of duplication of effort between the purely naval service and the air force.

EIGHTH RECOMMENDATION.

We think this subject should be looked into by the two departments concerned, and we do not doubt that arrangements can be made by which all overlapping can be effectively avoided.

35. We now come to the last class of questions with which we have to deal, which are at once the most difficult and the most important. We are strongly of opinion, and we have every hope that the two services share our view, that, since in war the services may have to cooperate, it is vital tnat in time of peace they should form an accurate estimate of each other's needs and capacities.

NINTH RECOMMENDATION.

We therefore recommend:

(i) That naval officers should be appointed to the air staff.

(ii) That air force officers should be appointed to the naval war staff.

(iii) That some means should be devised by which the wealth of technical knowledge at the disposal of the Admiralty should be utilized in the technical departments of the Air Ministry, preferably by reinforcement of the staff of these departments by naval technicians.

36. These recommendations refer exclusively to the headquarters of the two services; but it is perhaps even more important that the junior ranks of the two services, who will in time occupy responsible positions, should have a considerable sprinkling of persons familiar with the needs and capacities of the other service.

37. The air force look to a system of naval seconding for carrying out half this policy, and we can not believe that the Admirality would be averse to having members of the air force on board the carriers. Unfortunately, seconding from the navy to the air force, as at present understood, must be deemed to have been hitherto a failure, and we find it difficult to believe that, if the present system remains unchanged and unexplained, any great improvement

is likely to occur. We can not be surprised that a young officer who has just joined the Navy is reluctant to abandon, even temporarily, the department under which he expected to serve and to exchange it for one which is essentially different. The feeling is natural, and can not be ignored.

It must, however, be pointed out that if the word "seconding" is thus used this is not what any naval officer under the present scheme is expected to do. In ordinary practice, when we say that an officer is "seconded" to another service we no doubt intend to express the idea that for the duties which he had to perform and for the authorities he had to obey in the service which he has temporarily left, will be substituted new duties and new authorities. But this does not really represent the facts in the case of so-called "seconding" from the navy into the air force. The duties of the seconded officer, though carried out in the air, remain, nevertheless, naval duties, and the captain whom he has to obey continues to be a naval captain.

TENTH RECOMMENDATION.

In order to make this situation perfectly clear, we recommend that no seconded naval officer shall be asked to perform nonnaval air duties, except with the consent of the Admiralty. We believe the air force are prepared to accept this principle.

38. If this recommendation be carried into effect, the most important change involved in the operation of what is (somewhat inaccurately) called "seconding" is the change from the naval to a flying uniform—a change which can hardly be said to touch the essence of the situation.

ELEVENTH RECOMMENDATION.

We suggest, however, in order to meet the sentimental, though not on that account unimportant, objection, that the uniform of a naval flying man who, except for his period of training, is to all intents and purposes still under the Admiralty, should be distinguished from the flying men under the air force by some differentiating badge or mark. This would be the outward and visible sign that he still remains a member of the service which he originally joined. It would be a clear indication that what he proposes to do is to add accomplishments in naval flying to the other accomplishments which his brother officers are cultivating. If such a plan were found practicable, the objection felt by the Admiralty to the introduction of what they deem an alien element into the domestic life of the ship should be largely mitigated.

39. It might well be that, if this scheme succeeded, the number of officers seconded from the navy to the air force would exceed the 30 per cent of the total contemplated by the Air Service.

TWELFTH RECOMMENDATION.

We see no reason why 30 per cent should be regarded as the maximum, and we should propose to leave it to the Admiralty to determine what the proportion should be, subject to the proviso that not less than 30 per cent of air force officers, whether regular or short service, should serve on board the carriers.

40. There is another point of great practical importance on which something must be said. It is agreed that the work of spotting for naval gunnery is one which should be undertaken in all cases by naval officers, but such investigations as we have been able to make convince us that naval spotting and

fleet reconnaissance can not be sharply divided, and that the officer entrusted with the one may inevitably find himself called upon to perform the other also. We have been unable to discover any objection to this change, which, on the face of it, seems obviously reasonable.

THIRTEENTH RECOMMENDATION.

We therefore recommend that fleet reconnaissance, as well as naval spotting, should be entrusted to naval officers, seconded or otherwise.

41. If anybody will take the trouble to read the evidence given before us they will, we believe, be impressed by the number of problems for which a solution has been found by the two departments or suggested in this report. We earnestly trust that no merely technical difficulties will be allowed to stand in the way of a settlement which in the public interest is most urgently required.

(Signed) BALFOUR, (*Chairman*).
PEEL.
WEIR.

M. P. A. HANKEY, (*Secretary*).
2, WHITEHALL GARDENS, *July 21, 1923.*

GREAT BRITAIN.

VISIT TO WOOLWICH ARSENAL RESEARCH DEPARTMENT.

The research department is housed in a group of new buildings erected during the war and has a very complete equipment, laboratory, etc. There are a number of small "climatic houses" which afford practically every climatic condition which is maintained for any desired period of time. The few points of interest observed in the research department are as follows:

Condenser tubes.—Very serious difficulty has been experienced by the British Admiralty and commercial firms in the past with their condenser tubes splitting. The chief of these difficulties was due to "season cracks." It was stated that after a year's study and much experimentation they have practically eliminated any trouble from season cracks by a low temperature annealing at 260° C. My informant stated that Admiralty standard condenser tubes were composed of 70 per cent copper, 29 per cent zinc, and 1 per cent tin.

Primers.—The British have long experienced the greatest difficulty with defective primers, especially the splitting or cracking of the brass primer case. Formerly the brass primer case was bored out of a rod which was cut from an ingot. There were many defects in the ingots as cast and the primer case, after being bored, developed cracks and splits when firing. The number of failures was so great that two years' research work followed before finding a satisfactory solution. Excellent results with the brass primer cases are now obtained. The following steps have been taken:

The brass ingots are cast with a taper, which has helped considerably in eliminating defects such as blowholes, etc. The casting of this tapered brass ingot follows closely the ordinary method used in steel casting with risers. Brass disks or small thin sheets of brass are cut from the ingot and then these brass disks are drawn down into the brass primer case.

The chief factor in producing a satisfactory primer case has been the fundamental change in drawing down the primer case from the disk instead of boring it out of a solid rod.

Electro-deposition.—The most interesting process of depositing nickel upon other metals by electrolysis was observed. This method is called "electro-deposition," and by it a layer of nickel one-eighth inch thick can be deposited upon other metal. A number of tools and gauges were seen which had received a covering of one-eighth inch nickel. The nickel adheres to the other metal to such an extent that it can not be chipped off with a chisel and hammer. Apparently to all practical purposes and results it becomes part of the original metal in so far as attempts to remove it are concerned. It was noted that among other metals it adhered to aluminum.

It would appear possible that the electro-deposition of nickel may be very important in the development of all-metal airplanes by giving additional strength to parts which must be made of aluminum for lightness. In the design of new battleships any saving in weight is of great importance. It appears that the electro-deposition of nickel may be of special use in that connection. It was so commented upon by the Research Department, and it was further stated that it would prove an immense saving in money in connection with the repair of tools and gauges and in bringing them up to "standard" after being worn through long use.

Radiology.—Radiology is receiving a large share of attention at the research department, and it was noted that several of the more important officials in other branches of the Woolwich Arsenal spoke of the progress made in radiology. The development of the use of radiology in connection with certain work at Woolwich Arsenal is in charge of Doctor Pullen. Practically all of the work is X-ray work of various metals or various ordnance instruments or devices containing explosive. About 100 photographs were seen of various uses of the X ray. It is being used experimentally for the examination of metal ingots, of bombs, fuses, and welds of various metals. A large number of ex-German bombs, projectiles, or other devices containing explosive have been examined with the X ray prior to any attempt to disassemble them. By varying the length of the time of

exposure the various devices and their operation can be developed upon the picture.

One of the most interesting tests was the simultaneous examination or *inspection* of 60 fuses. One of the most important uses to which it is hoped to employ radiology is in the inspection department. It is estimated and claimed by Doctor Pullen that in five days he could examine or inspect a number of fuses which it originally took four and a half months to inspect by the normal procedure at Woolwich Arsenal. At the present time his largest machine has a 350,000-volt transformer. He can now examine steel ingots $3\frac{1}{2}$ inches thick and the machine readily indicates blow holes or defects in the rough casting. Similarly, a weld can be examined, and he has proved to the inspectors that many welds which they passed have been unsatisfactory.

Doctor Pullen is an enthusiast, but the practical results he has accomplished have interested most of the people at Woolwich Arsenal and they give serious consideration to the fact that within two months he expects to be able to look through or show up the defects in ingots or castings up to and including 6 inches in thickness. For this he expects an exposure of about one and one-half hours. He states that experience indicates what part of the curve to work on and that for normal fuses an exposure of one-tenth of a second is sufficient for the examination of 60 fuses simultaneously. With larger and thicker objects containing complex mechanism he takes a series of exposures of different lengths of time which bring out different mechanisms. Certainly the series of photographs is most interesting. I observed a weld in a 2-inch piece of steel and saw both good and bad welds, and the difference was clearly distinguishable.

GREAT BRITAIN.

TRIAL BOMBING OF "AGAMEMNON."

The *Agamemnon* was fitted with a radio directive control and its movements were directed by a destroyer distant about 1,000 yards. A circular giving the schedule of the trials was distributed and this circular contained the following information:

"AGAMEMNON" BOMBING TRIALS.

31st July and 1st August, 1923.

OBJECT OF THE TRIALS.

1. The object of the trials from the naval point of view is to assess the average accuracy to be expected from high bombing at the present date, while from the R. A. F. point of view the object is to give practice in high bombing

against a ship under way, though limited in speed and manœuvring ability; this is the most realistic condition which can be produced in peace time.

N. B.—It must not be assumed that the accuracy obtained in any single practice is representative of the true average accuracy.

THE TARGET.

2. The *Agamemnon* will be under wireless control. A general line of advance is laid down for the runs, but subject to this, the officer controlling the *Agamemnon* is allowed to manœuvre the shop as he thinks best so as to produce action conditions as far as possible. The maximum speed in these trials will not exceed 14 knots.

THE BOMBS USED.

3. The bombs used in these practices are only light practice bombs of small size which emit a puff of smoke on striking the *Agamemnon* or the water.

RECORDS KEPT.

4. Records are kept in vessels attending on the trials and also by observers in specially protected positions on board *Agamemnon.*

PROGRAMME OF THE TRIALS.

1st day, a. m.:

(1) 8,000 ft. 4 D. H. 9a. Individual bombing (8 runs). Target *Agamemnon,* 9–10 a. m.

(2) 8,000 ft. 2 D. H. 9a. Individual bombing (8 runs). Target *Agamemnon,* 10–11 a. m.

1st day, p. m.:

(3) 14,000 ft. 4 D. H. 9a. Individual bombing (8 runs). Target *Agamemnon,* 12.30–1.30 p. m.

2d day, a. m.:

(4) 14,000 ft. 4 D. H. 9a. Individual bombing (8 runs). Target *Agamemnon,* 9–10 a. m.

(5) 14,000 ft. 2 D. H. 9a. Individual bombing (8 runs). Target *Agamemnon,* 10–11 a. m.

2d day, p. m.:

(6) 8,000 ft. 6 D. H. 9a. Formation (8 runs). Target *Agamemnon,* 12.30 to 1.30 p. m.

Third day to complete programme if two days found to be insufficient, or for repeats, if necessary.

The observers left Portsmouth dockyard on H. M. S. *Champion* at 9 a. m., 1 August, and proceeded to the vicinity of the trials, the *Champion* taking up a position approximately 1,500 yards off the port beam of the *Agamemnon.* The wind was blowing about 35 miles an hour and the sea was very choppy. A flight of 4 D. H. 9a airplanes soon appeared at an altitude which appears to be about 8,000 feet. These planes were not flying in formation and proceeded to pass over the *Agamemnon* in succession and dropped miniature bombs. Sea conditions were such that only about half of the splashes could be seen. The operation of individual bombing continued for approximately one hour and during this period the

Agamemnon made three changes of course, each of which appeared to be about 35° to 45°, and appeared to make about three changes of speed. It was estimated that the maximum speed of the *Agamemnon* during the trials was 12 to 13 knots and the minimum speed 6 to 8 knots.

So far as could be observed, no direct hits were made and no bombs appeared to strike within 50 yards of the ship. Only 10 splashes were actually seen and the mean point of impact appeared to be about even with the stern and 25 to 50 yards to port. When the bombing first started the ship was making what appeared to be a speed of about 13 knots and the first three bombs were well astern of the ship. The ship then changed course to starboard and the next two bombs were well off the port quarter. The ship then slowed down and the course changed back to port and the next three bombs were off the starboard bow. The ship changed course to starboard again and speeded up and the last bombs were off the port quarter.

From the above it would appear that the bombers did not note either the changes of course or the changes of speed. At this point it clouded over and the tests were discontinued for the day.

On account of the rather large and varying distance of the observer ship from the *Agamemnon* and of the fact that a great many bombs dropped were not seen to splash, it was impossible to obtain any really reliable data as to the accuracy of the bombing as a whole. Conditions were unfavorable for the bombers, as passing clouds made it impossible for them to keep the target in sight during the entire approach. It appeared that the wind was blowing from a different direction at 8,000 feet than from the direction observed on the surface. No opportunity was given to see the bombing planes, but it was stated by one of the Air Force officers that the bomber occupied a sitting position and used a periscope type of sight, and that previous experiments had proved that the prone position using the improved Wimperis sight through the bottom of the fuselage gave better results.

The Admiralty liaison officer in charge of the observers stated that the practices would be continued the following day, provided the majority of the observers so desired, but at the same time made it clear that such continuance beyond the two days originally anticipated would be a serious inconvenience. The observers therefore decided to return to London. As a matter of fact, it is not considered that the bombing trials, even if completely carried out as scheduled, would have been of any great professional interest.

GREAT BRITAIN.

PRINCIPLES OF NAVAL STAFF WORK.

Source: Extracts from pamphlet published by Training and Staff Duties Division, Admiralty.

The following extracts on "Principles of Naval Staff Work" are copied from a pamphlet published by the Training and Staff Duties Division of the Admiralty:

Chapter I.—Nature of a Staff.

1. Modern war involves the coordination of a large number of units and specialized departments toward a single end, and, to ensure this the admiral commanding must keep in close touch with the general situation and with every part of his command.

An admiral in command of a great fleet should not, and least of all in war, encumber himself with minor details and matters of routine, though their consideration and regulation may be of great importance. Apart from the fact that the mental and physical powers of one man are not equal to such a task, any attempt to deal with details means losing sight of the larger aspects of the campaign and the supervision of the fighting forces as a whole.

An admiral must consequently have assistants, and these assistants form his staff.[1]

2. Again, observation of the situation must be continuous and unbroken in order to grasp at once the relative importance of particular items of information, and, as this continuous and unbroken attention can not be given by the admiral himself, a staff is necessary to watch the situation constantly, to be ready to present the circumstances in a form which will admit of rapid decision, and to assist the admiral in working out details and in drafting and communicating orders or instructions.

A staff officer acts as an assistant only, and as such makes no decisions. Being, however, in the center of affairs and possessing a knowledge of the general situation, he is usually able to meet ordinary contingencies by the exercise of common sense or reference to general instructions. Larger questions he either submits to the admiral or chief of staff for consideration, or deals with in accordance with the admiral's expressed policy. Any sudden change in the situation is reported directly to the admiral, such immediate measures being taken to deal with urgent requirements as common sense, a knowledge of the situation, and the exigencies of the case may dictate.[2]

3. The essence of efficient organization lies in the subdivision of labor, and, in order that the work of the staff may be carried out smoothly, without duplication and overlapping, it is necessary to allot definite duties to each section and individual.[3] This decentralization must necessarily be based on a comprehensive survey of the whole field of work, as otherwise some important item of work may be neglected or depreciated.

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[1] Cf. Schellendorff (Hare), p. 1.

[2] The position of an officer of the watch at sea, in his relationship to the captain for the safety of the ship, bears some resemblance to that of a staff officer; for the officer of the watch is directly responsible to the captain and endowed with his authority, acting according to his own judgment in ordinary circumstances, but reporting any special circumstances direct to the captain.

[3] S. M., 9.

4. But this division of work into its component parts is not enough. There is a tendency for departments thus formed to become immersed in their own work, and to look at things by the light of departmental regulations from a purely departmental point of view.

They must therefore be grouped together into a workable number of branches under the chief of staff on a definite basis of coordination aiming at the smooth and efficient cooperation of every section working in harmony together toward a definite goal.

5. These two processes of decentralization and coordination may be regarded as the initial steps in staff organization. In a centralized system, on the other hand, a large amount of work is performed by the admiral himself, with the help of one or two officers whose spheres of work are not clearly defined, but who assist him generally in a promiscuous sort of way when required.

But decentralization, if it is to be a reality and not merely a name, calls for a certain amount of delegation, and such delegation is only possible if competent officers are available, which again depends largely on a sound system of staff training. Decentralization further requires that each officer must confine himself to his own sphere of work, and must be sufficiently conversant with the policy of the command and the work of the whole to avoid doing anything that may be subversive of policy or may seriously hamper the work of others.

Each section must know what the others are doing and have done; for without a sound system of constant intercommunication it is impossible to coordinate the work of a staff.

It is essential, therefore, that the officers of each branch of the staff should have a good general knowledge of the work and duties of other branches, so that they may know what assistance it is in their power to give, and how they can best work in collaboration with one another.

6. It can not be too strongly emphasized that the keynote of staff work is collective effort, and, where a number of sections are each engaged in some form of specialized work, a definite system of coordination is necessary, inspired by a spirit of collective effort and cordial good will. No perfection of organization can make up for the lack of these qualities. The relationship between officers serving on the staff must be close and cordial. Though they may be organized in different branches, there must be only one staff.

Chapter II.—Operations and Administration.

7. It has been pointed out that the first essential in staff organization is a sound principle of work division; and such a principle is available in the distinction which exists between the functions of fighting and supply. This distinction held good in the navy from 1545 to 1832. On the one side was the lord high admiral or the commissioners of the admiralty; on the other side, the principal officers of the navy representing supply.[4] The same distinction is to be found between the operational employment of an instrument and its technical use and maintenance in an efficient state. The former may be termed "operations" and the latter "administration."[5]

These are the two main branches of staff work; but as the technical use and maintenance of weapons in an efficient state requires schools and branches of technical research, training and supervision, administration may be again

[4] All our old wars were fought on this dual system, and a distinction had existed in the Royal Navy between operations and supply long before it was adopted by Scharnhorst and Moltke as the keystone of their system of military organization.

[5] Also termed "maintenance"; but "administration" has a wider significance, including the idea of disciplinary supervision.

divided into technical work, such as gunnery, torpedoes, engineering, wireless, and administration pure and simple, dealing with general routine, discipline, and supply.

8. It is the function of operations to appreciate the situation continuously, to assist the command in the consideration and definition of requirements and in the preparation and conduct of operations in relation to strategy, tactics and training; and to convert intentions of the command into orders and instructions.

It is the function of the technical and administrative branch to make the necessary arrangements to ensure that all the requirements of supply and training and technique are fulfilled; that the personnel and material are ready, adequate in quantity and fit to perform the work imposed on them in executing the plans of the command.

9. In all staff systems it has been found desirable to have that portion of the staff which is entrusted with the conduct of operations and responsible for the issue of the commander's orders and for keeping all branches of the staff informed of the situation, designated by a special name.[6] This particular branch of the staff may therefore be called the war staff.

The war staff of a command would consist, therefore, of such officers as are definitely appointed to it,[7] and its duties may be considered as consisting of—

(a) Consideration of questions of policy and working out necessary details connected with plans. (Policy.)

(b) *Continuous study of the situation and its clear visualisation on charts of the situation*, and general supervision of the conduct of current operations and of mercantile movements in accordance with the expressed policy and intentions of the command. Keeping a record of position, strength, and movements of own forces. This constitutes the operations section.

(c) *Drafting operation orders and instructions*, and transmission of same to subordinate commanders. (Operations.)

(d) Furnishing timely information to all sections of the staff and administrative services as to the situation and requirements of forces. (Operations.)

(e) Supervision of a system for the receipt of intelligence, collecting and sifting information, *keeping a record of the position, strength and movements of enemy* forces, and of all details concerning maritime areas of operation, in a form available for immediate reference. This constitutes the intelligence section.

(f) Arranging for a system of communications in accordance with staff requirements, and circulating information as to the arrangements made. (Communications.)

(g) Arranging for receipt, registry, circulation, and despatch of all communications, for coding and decoding of messages, and for the keeping of files and necessary records. (Secretariat.)[8]

(h) Consideration of questions of staff organisation, the supervision of staff training, and the consideration of questions of training where principles are concerned. (Training.)

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[6] Schellendorff (Hare), 1.

[7] This branch at the Admiralty is termed the "naval staff."

[8] It is necessary to emphasize the fact that this is a definite and important section of staff work. In the British Army in the field it is called the central office of the general staff. In the German Army it is the staff bureau, and the "Leistung," or direction of the bureau, is regarded as an important function in the hands of the quartermaster general at great headquarters and of the senior general staff officer in smaller commands.

In a command of any size the proper performance of these duties, so far as current business is concerned, entails at least three sections—operations, intelligence and secretariat.

Chapter III.—Proposed Organisation of the Operations or War Staff Branch.

10. The major portion of a staff is usually employed with the despatch of current business and the conduct of operation in the present, but due provision must also be made for the preparation of plans and for research and for a clear historical record of events to supply general guidance in prospective operations.

Experience has shown that the conduct of current business in a large command in time of war requires five sections[9] corresponding to certain definite spheres of work:

(1) Operations section (embracing antisubmarine, mine sweeping, and air).
(2) Mercantile movements.
(3) Communications.
(4) Intelligence.
(5) Staff office or secretariat.

11. The work of the *operations section* consists primarily in a *continuous appreciation of the situation*, and includes—

(a) Keeping a record of positions, strength and movements of all own forces and recording same in a form available for immediate use.
(b) Keeping in close touch with the intelligence section as to the position, strength, and movements of enemy forces, and mine fields and dangers in all areas.
(c) Plotting distribution of forces on chart of situation.
(d) Converting intentions of command into orders and instructions, and working out necessary details.

Further, in the case of a fleet command—

(e) Preparation of tactical orders and instructions.
(f) Investigation of strategical and tactical questions and exercises and preparation of reports on same.

12. The work of *mercantile movements* includes:

(a) Keeping a record of routes, and all messages affecting routes, up to date. Issue of route instructions.
(b) Keeping a record of movements of convoys and escorts and mercantile traffic.
(c) Arrangements for assemblage of convoys and escorts and issue of orders and instructions for same.
(d) Movements and protection of mercantile traffic (other than convoys) and fishing fleet. Issue of orders and instructions for same.

13. The work of *communications*[10] includes:

(a) Consideration of the requirements of the war staff for the receipt of intelligence and for the receipt and transmission of orders—

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[9] Finance is a special section which, like the secretariat, forms a species of control interpenetrating all branches of work, but its consideration has been omitted for sake of brevity. These five sections, of course, represent the maximum expansion and will only be found in large staffs.

[10] Note.—In the army this is a subsection, Oa2, of the operations section. The actual installation and supervision of the system is under a department, the director of army signals.

See explanatory note 1 at end.

(b) Organization of a system of communications, provision of cables and stations, and coordination with civil and military departments concerned.

(c) Compilation, in association with intelligence, of codes and ciphers, instructions for use, and issue of same.

(d) Routing of messages.

14. The work of *intelligence* includes:

(a) Collecting, sifting, plotting, and distributing information as to positions, movements, and strength of *enemy* forces, shipping, mine fields, dangerous areas, swept channels, and recording same in a form available for immediate use.

(b) Correcting and keeping up to date information about the enemy. Assisting operations to appreciate the situation.

(c) Special intelligence, counter espionage, and study of ciphers.

(d) Collating and distributing information about the maritime theatre of war.

(e) Censorship and control of press.

This work involves an organized system of its own, which may be regarded as the apparatus by which rays coming from various sources are brought to a focus and given an intelligible meaning.

15. The work of the staff office, or *secretariat*,[11] includes:

(a) Receipt, registry, and distribution of correspondence; reproduction and despatch of orders, care of correspondence, and other papers entering and leaving the war staff.

(b) Ciphering and deciphering of messages.[12]

(c) Circulation of papers within the staff.

(d) Filing and custody of records.

16. The work of the operations section, if it requires subdivision, should be subdivided on a geographical basis into the principal maritime areas of operations.[13]

From this section may also develop sections devoted to a special type of operations, as in the case of the antisubmarine division, which was formed with the special object of dealing with submarines and devising antisubmarine measures, or, as in the case of mine sweeping, which is an important branch of operations, with craft and a service of its own. It may be accepted that the direction of operations should never be organized merely on the basis of types of vessels employed, such as destroyers, submarines, etc., for in the same area the operations of all craft are coincident and interrelated, and must be considered as a whole.[14]

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[11] In the army general staff this work is performed by the registry subsection (Ob) of the operations section, which is responsible for the establishment at G. H. Q.'s of a general staff central office for the purpose, S. M., p. 77, Table A.

[12] The term "coding" has gradually come to refer to the easier signal codes and ciphering to the more secret book ciphers. In this sense coding and decoding would usually be performed by the signal staff.

[13] The three chiefs of section in German great headquarters in 1870–71 dealt with geographical divisions.

[14] It may be contended that the auxiliary patrol and commodore (S) are instances of an organization on the basis of the type of vessel, and so they are, but for purposes of administration, not for operations. Administration has a tendency towards subsidiary division on the basis of types, but this does not matter so long as the operations in any area are controlled from one centre. The auxiliary patrol administration is necessary to ensure unity in complex questions of recruitment, hire of vessels, etc.: commodore (S) again is required to ensure unity in the administration, organization, and training of a particular service or arm, but in both these cases the control is rather administrative than operational.

The methods of using a particular arm, such as submarines, may, however, require special consideration, but this can be provided for by attaching to the operations branch officers experienced in the use of the arm. Local defence, including coastal patrols and mine sweeping in the approaches to a port, forms a distinct branch of work which it will usually be convenient to constitute as a separate section.

17. Mercantile movements and supervision and regulation of mercantile traffic is closely related to operations, but as it involves at the Admiralty an extensive system of its own for the regulation of shipping and the organization of convoys and deals with through traffic in a number of areas, it has branched off as a separate division, though generically part of and keeping in the closest touch with operations.

In commands where there is little convoy work, it will naturally be merged in the operations section.

18. Communications section represents an important function which it is necessary to bear in mind, and which has an operational aspect apart from its technical side. Generally speaking, however, the work of communications can be performed by the technical staff officer in charge of signals.

In the army staff system this task is deputed at G. H. Q.'s to a subsection of operations O(a), which states the requirements and issues instructions to the director, army signals, the latter being then responsible that the arrangements are made. In a large command or in some special sphere of work, such as combined operations, it may be advisable to have a special communications officer free from the technical duties connected with the supervision and maintenance of matériel and training of personnel, but under ordinary circumstances all arrangements for communications can usually be made by the C. O. S. or war staff officer working in close conjunction with the signal officer.

18a. The primary duty of intelligence is the collection, consideration, and collation of all information as to the strength, movements, and distribution of the enemy and the regular or immediate issue of the same. It is the general provider of information, and for this purpose it may require a service and organization of its own. It is its function to give a considered opinion as to the value of reports received, advise as to the probable movements of the enemy, and control the issue of intelligence. It is not its function either to plan or conduct operations. If it attempts to do so, it rejects the principle of a clear delimitation of function and confusion results.

19. The organization of all staffs on a uniform system offers great advantages, and is, in fact, essential. The fundamental principle lies in the separation of operations from administration and in the division of operations into operations, intelligence, and secretariat. On this principle the war staff of a command should become a miniature reproduction of the naval staff, which facilitates business and enables officers to receive definite training in the different aspects of war staff work.

In the case of a base it enables the C. O. S. to coordinate the work of officers, such as shipping intelligence and convoy officers, appointed by admiralty divisions for departmental work. If the main aspects of the naval staff are reproduced, these officers acquire a definite relationship to one another and to the staff of the command.

The actual constitution of a staff will always depend largely on the particular nature of the work, and is bound to expand or contract according to the size of the command.

At the admiralty, operations expands to operations home, operations foreign, plans, mercantile movements, antisubmarine, and mine sweeping. In

a small command mercantile movements and mine sweeping would be combined with operations and communications with intelligence. In a still smaller command operations and intelligence would be combined under one staff officer, and two offices only would remain—operations and the staff secretariat.

This may be regarded as the lowest stage of staff work, and experience has shown that it is not advisable to carry the amalgamation further. A single general office results in the secretariat work getting mixed up with charts, and further fusion leads to confusion.

20. *Plans and history.*—Where the volume of work is large, the functions of plans and history will involve further decentralization.

In all large businesses a definite distinction is drawn between the functions of general policy and the conduct of current affairs, and a plans division free from current and routine work seems to be essential to any large organization, for though plans and policy must grow out of the present, and must be accommodated to the present, it is not easy to evolve a comprehensive plan in the midst of the actual pressure of current work, and in the actual wash of the tides of business in and out.[15]

In current business, too, the attention is being constantly dispersed over a wide and changing field, whereas in planning it requires to be concentrated on one particular objective, and to be freed from the pressure of the present and immediate.

A plans division may therefore be regarded as a necessary part of an admiralty naval staff working in close conjunction with the intelligence division, and fully cognizant of current operations, but free from their actual management. It must keep in intimate touch with the divisions conducting intelligence and operations (to which latter it is generically allied), and with the departments of supply. Otherwise plans may be prepared which do not accord with existing conditions and the forces available, or a full use may not be made of existing material, or, on the other hand, material may not be developed in the direction it is required.

Under these conditions a plans division can play a very useful part, and it also fulfills an important critical function in dealing with immature and ill-considered schemes which may be thrust upon the naval staff from outside, and which the operations division may not have time to consider in detail.

21. The case of history is somewhat similar, its object being to observe what has been done and to reduce it to clear and simple expression. There is no greater stimulus to efficiency than an accurate record of the work actually done and the method of its execution; and the want of such a record greatly increases the difficulty of staff work, for a clear survey of the operations of last quarter is often an essential introduction to the operations of this quarter. Operations in the different areas of war, changes in administration, the evolution of particular aspects of war, such as convoy and antisubmarine work, and developments in technical branches are all more easily dealt with when reduced to an historical form.

It is clear that a history of this sort must be compiled in close conjunction with the divisions and sections actually engaged in the current work. The function of history like that of finance interpenetrates every

[15] The same remarks apply, to a certain extent, to large commands at sea, where concentration on any particular problem, strategical or tactical, is very difficult, for, unless officers are specially allotted to research, continuous interruption is unavoidable, as in current work an officer must deal singly with many different questions as they arise.

branch of work, and its object would be attained by the attachment of a diarist to every important division or section, so that a printed provisional history covering the principal areas of operation and the various spheres of work should follow closely on the heels of events.

A good record of events may be regarded as the ledger of the business of war, and the ledger should be kept up to date. In its ulterior aspect, too, it constitutes the reservoir of principle, and is the memory of the community. Actual experience shows that the conduct of business suffers from the lack of a clear-printed record of events available for easy and instant reference, for reports can never yield their maximum value unless available in some form of printed record.

As in the case of plans, the work must be done at the time in close conjunction with the divisions and sections concerned, and the units performing the work should also keep brief diaries in a form readily reducible to an historical shape. Plans and history represent real functions, and where such functions can be discerned, they should be specialized and developed, for it is confusion of function and everybody trying to do everything that lies at the root of many difficulties in staff work.

21a. Training must lie very largely with the technical services and schools concerned, but there are two aspects of training which appear to belong to the naval war staff—one is staff training and the other the formulation of general principles of training.

Staff training, from which the staff is itself evolved and with which it is directly concerned, must clearly be under the direct control of the chief of the staff. As the C. O. S. can not himself deal with its details, a division is required to make a study of staff training and staff organization, and to act under the C. O. S. as a trustee for the existence and development of the war staff. Again, in the army the C. G. S. is regarded as the guardian of principle, and as he is intimately concerned with the final results of training, it is allotted to him to lay down the principles upon which training is to be conducted. If this function did not attach to him, he would be left without lot or part in military training, which is intimately associated with the preparations for war, and might find himself faced with conditions in which military training was being conducted on no definite principles or with no relationship to the realties and requirements of war. Staff training and the general principles of training may therefore be regarded as functions of the C. N. S.

Chapter IV.—Administration.

Technical and administrative staff.

22. It was pointed out in a previous chapter that the first step to the inauguration of a staff system is a correct analysis of the different branches of work with a view to their decentralization and sebsequent grouping for purposes of coordination under appropriate heads.

The subject of administration, which covers all questions of supply and maintenance, both of personnel and matériel and includes the maintenance of discipline, is, therefore, best approached by an enumeration of the principal branches of administrative work, ashore and afloat.

23. In the army staff system administration is divided into two main branches which may be called personnel and supply, one under the adjutant general, dealing with personnel and discipline, the other under the quartermaster general, dealing with transport and supply.

The question of supply on land is, however, a much more difficult and arduous business than at sea where each ship is its own vehicle of transport and supply, and in the navy, therefore, personnel and supply may be included under the one head of administration.

24. In a survey of the different branches of work, it is necessary for the classification to follow the course which business tends to take in actual practice, and a distinction can be drawn between the purely administrative services of supply and the principal technical services of naval construction, engineering, ordnance and gunnery, torpedoes, mining, wireless, and hydrography. These all possess a feature of supply and maintenance, but their prevailing aspect is technical,[16] for they involve applied sciences and form a category of their own, requiring specialized study and experience and schools of training, experiment, and research. Their subdivisions tend to follow the line of production, namely, research and experiment, design, supply of materials, construction, inspection, maintenance and training in use.

These technical services are also services of supply and maintenance, and might be regarded as constituting a technical group of the administrative branch, occupying a sort of half-way house between operations and administration. They have an advisory function toward operations, for they are related to tactics and strategy and training. They have a technical function of their own, and their aspect is administrative when they deal with maintenance and supply.

It is better, therefore, to place them in a category of their own and the staff will then have divisions—operations (or war staff); technical staff, dealing with those spheres of work which are generally recognized as technical; and administrative staff, dealing with questions of discipline, routine, personnel, and supply.

25. The following survey covers practically every sphere of technical and administrative work. The administrative will be given first, as discipline, victualing, and clothing are requirements for which in practice arrangements must first be made.

SERVICES, TECHNICAL AND ADMINISTRATIVE.

Personnel discipline:

1. Discipline and regulations.
2. Courts-martial, courts of inquiry, relations with civil authorities.
3. Police measures, guards, custody, detention.
4. Punitive system, summary punishments, and punishment returns.

Personnel regulative:

5. Complement and establishment, mobilization, casualties.
6. Services, certificates, recommendations, awards, promotion, discharge, pensions.
7. Requests and complaints.
8. Drafting, transfers, lodgement of drafts, disposal of survivors, transport and local transport (regulations for use of by personnel), leave and traveling.
9. Entry, recruitment.
10. Post, mails.
11. Canteen, recreation, and welfare.
12. Pay.

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[16] Technical is meant as appertaining to technique, i. e., the art and craft of using the special tools and instruments of a trade. Thus guns and sights are the instruments; gun drill, sight setting, range finding, and fire control constitute the technique.

13. Victualing (accounts and issue).
14. Clothing.

Medical:

15. Medical services, hygiene,[17] sickness, invalidment, pensions (certificate).

TECHNICAL SERVICES.

16. Seamanship.
17. Navigation.
18. Engineering.
19. Gunnery.
20. Torpedoes.
21. Electricity.
22. Signals and W/T.

These are all chiefly concerned with the development and skilled use of instruments and appliances, with the organization of particular services and the technical training of personnel.

Stores:

23. Stores and storage: (a) Engineers; (b) gunnery; (c) torpedo; (d) mines; (e) boatswains; (f) shipwrights; (g) fuel, coal, oil; (h) victualling, clothing; (i) canteen and welfare.

In the case of a naval base certain auxiliary spheres of work arise which may be termed base administrative.

Base administrative:

24. Superintendence of base and charge of shore establishment.
25. Docks and docking.
26. Refits and repairs: (a) Hull, (b) engines, (c) ordnance.
27. Stores at base, as in 23.
28. Equipment and inspection: (a) Naval craft, (b) merchant vessels.
29. Naval harbourmaster: (a) Berthing and mooring; (b) tugs and pilots; (c) lights and buoys, upkeep of (controlled by war staff); (d) booms, upkeep of (controlled by war staff).
30. Fire and police.
31. Salvage work.
32. Transport (a) by sea, (b) by land.
33. Works and buildings.
34. Contracts and purchases, finance, auditing.

26. All these technical and administrative services are usually governed, as to their procedure, by special regulations drafted by the appropriate administrative departments, at the Admiralty and approved and promulgated by the board.

Thus the accountant officer is immediately responsible to the commanding officer, but he also bears a relationship to accountant general, and so far as clothing and victualling are connected, to the director of victualling.[18]

27. It is unnecessary to discuss the internal organization of these services for the main principle of staff work is that each service must be responsible for its own internal efficiency and methods of business, the chief of staff being responsible only for the general coordination of the whole.

All these spheres of work offer ample opportunities for research and the display of scientific aptitude. On the administrative side, principles of dis-

[17] Medical service and hygiene may be regarded as a technical service related to physical training.

[18] This function of the supply of money, food, and clothing is known in the German administrative system as intendantur, and its ministrations are necessary in every ship or fleet or base.

cipline, improvements in recreation and welfare, systems of accountancy, questions of canteen management and of the conditions of naval pay and service offer a wide field for investigation and study; in the technical staff the scope of research is boundless, and in the operations staff there is ample room for investigation in tactics and strategy and general principles of staffwork.

One branch must not be regarded as more important than any other, for no two can be compared in terms of importance, each being complementary to the other. If there are no ships and no guns there can be no operations; if the operations are badly conducted the gunnery may be good but there will be no success; a new technical device or a new instrument of warfare may revolutionize operations, and all operations must rest on a basis of discipline and sound administration.

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Staff establishments:

54. In the case of commands of any size, the officer in command will require the assistance of staff officers to control the movements of his units. A large base command will require at least three officers performing war staff duties in the war room, and each command should have its own staff establishment according to the amount and nature of its work, as in the case of an army, a division, or a brigade.

55. The status of a staff officer may be regarded as analogous to that of the old-time secretary, who had no authority other than that which he derived from his staff position, but differs from it in so far as a staff officer may be expected to be sufficiently versed in a seaman's business to meet ordinary contingencies by the exercise of previous experience, and to be competent to work out the details of movements and plans of operations, thereby relieving the flag officer of much burdensome detail.

56. The following principles are suggested as governing the status of a staff officer and the chief of staff:

A staff officer has individually no direct authority over subordinate commands and units, and can only issue orders with the approval or subsequent cognizance and confirmation of the command or in accordance with the latter's stated policy or expressed intentions.

57. A staff officer in the execution of his office is regarded as representing the authority of the flag or other officer to whose staff he is appointed, and orders issued by a staff officer with the cognizance of the flag officer or chief of staff are regarded as issued with the authority of the flag officer himself.

58. A staff officer must invariably keep the command informed of any actions taken in his name, and is responsible that any orders issued are duly registered in such a form as may be prescribed, and that the approval of the command is obtained.

59. The chief of the staff is in charge of the war staff. He is responsible for the allocation of duties in the war staff and to him is delegated the responsibility for the coordination and direction of the work of the whole staff and the system of its business procedure.

The term "chief staff officer" will be used in subordinate commands.

60. The chief of the staff is empowered to sign operation orders and instructions for the command and all operation orders will be issued through him.

In the temporary absence of the flag officer or senior naval officer the chief of the staff or chief staff officer will continue in direct charge of opera-

tions work in order to ensure the necessary continuity of policy, but is not responsible for the disciplinary control of the command.[19]

In operational matters which are in his opinion matters of urgency admitting of no delay he will issue such orders and instructions as he may think necessary, keeping the senior officer fully cognizant of the situation and of any action taken to meet particular contingencies.

61. The chief of the staff or chief staff officer is responsible that all necessary information concerning operations is conveyed with all despatch to the staff officers and heads of all administrative services concerned, in order that they may have all the information necessary for the effectual performance of their duties.

Chapter VII.—Business Procedure in a Staff.

62. The business procedure of a staff is a matter of the first importance.

The divisions of work and organization may be excellent, the functions may be clearly defined, but if the procedure, which is the actual working in practice, is bad, the result will be failure and disappointment.

The staff deals to a large extent with paper—paper in reports and writings or paper in messages and telegrams. Therefore, it must be able to handle paper, to arrange papers, to deal with papers by the hundred to get the gist out of papers, to recognize their worth or worthlessness, to form conclusions, and finally to send out orders and instructions on paper. To do all this, a severe paper discipline is necessary.

63. In the grand quartier general at Metz in 1870 disorder and confusion reigned supreme, and the defeat of the French in 1870–71 must be attributed partly to their chaotic procedure.

"Never shall I forget," wrote General Fay, "the disorder and confusion which reigned in that room. Three doors gave access to it, constantly opening to give passage to our chiefs and strangers seeking the most futile information. Orders and counter orders literally collided with one another; the smallest telegraphic despatch gave rise to feverish excitement entirely incompatible with that absolute calm which is one of the first essentials in a good staff." [20]

64. The first requisite, then, is a department, bureau, or secretariat where all correspondence is received, opened, registered, and distributed. This may be called the staff office and secretariat. In the army it is called the general staff central office;[21] in the German army the central bureau or business room (Geschaftszimmer).

But this work must be considered under further headings. The incoming and outgoing material takes the form of correspondence and messages according to the system of transmission, the former comprising all communications by writing; the latter all communications by telephone, telegram, or wireless.

Then, again, there is a parallel classification into secret, confidential, and ordinary, though the two first may be considered as one, for it is desirable on the whole that secrecy in the sense that only one or two persons are informed should be confined to as few documents as possible. In any case, every official paper should be registered and should pass finally to a properly equipped depository responsible for its custody.

65. The importance of a standard procedure has never been fully emphasized, and it is well to appreciate the fact that, from the date of his entry to the

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[19] See explanatory note 3.

[20] Commandement et États-Majors, Lt.-Colonel Boissonnet, 1908.

[21] S. M., 27/1.

day he hoists his flag, a naval officer never receives any instruction in business-like procedure, a branch of knowledge of the first importance to efficient staff work. It is true that secretarial labor has endeavored successfully to fill the gap, but one of the principles of war staff work is that the business shall be performed by those who have a full knowledge of the actual conditions of work and execution and who have undergone a uniform training in a standard system.

66. It is not intended to make this a dissertation on filing, but as business depends on papers and the accessibility of papers depends on a sound system of registry, circulation, and filing, a few remarks on the subject will not be out of place. The object of registration is to control receipt and circulation. The object of indexing (usually by cards) is to put one's hand on a paper. The object of filing is to provide a definite place for each paper.

The system of filing adopted in some registries consists in numbering papers as they come in and allotting each paper a place according to its number. This is serial or "numerical" filing[22] in the strict sense of the term, for *each paper* is actually filed in numerical order.[23]

The advantages of this system are its simplicity, for it requires no classification, it is easy to work, can be started at once, and will receive any paper on any subject. Papers are, of course, card indexed, and when properly run it should be easy to get hold of any single paper.

Its disadvantages are not so evident, but are very real. The system makes it easy to deal with and to find single papers, but difficult to deal with subjects *en bloc*. For instance, if one wishes to see all the papers relative to a subject, some time is required to sort them out of their numerical places. There arises a demand, therefore, for papers on the same subject to be kept together, which leads to papers being put away in files under suitable subject headings. This constitutes "subject" filing.

"Serial" filing corresponds to a library system in which each book as it comes in receives a consecutive numbered place on the shelves; "subject" filing to a system where books are allotted to subject shelves of history, geography, mathematics.

66a. "Subject" filing has the advantages of being able to present the officer concerned with the whole of the subject without going through the process of collecting all the papers out of a serial file. The officer does not need to send for "formers," for the file presents the history of the subject. In fact, if any particular subject is to be studied, it is clear that papers must first be arranged in this manner.

The disadvantages of "subject" filing are that it requires considerable skill and knowledge of the business to classify papers and to compile the proper heads and subheads, and it will only take papers connected with the business.

The ordinary service "Pack" system consists of numbered subject files. The system is good for dealing with a subject as a whole, but is not so suitable for keeping track of single papers.[24]

The serial filing system is the best for the registry and the clerical staff; the subject file is the best for the sectional officer and for a careful study of the subject.

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[22] The term is sometimes given to the very common system in which subject files are given numbers. This is a system of numbered files but not, strictly speaking, of numerical filing.

[23] In holders numbered 1 to 10, 11 to 20, and so on.

[24] If used it is absolutely necessary that a careful record of the subject file or "pack" be kept both in the in-and-out book and under the appropriate heads in the card index.

66b. Headings such as "Immediate," "Awaiting reply," "Awaiting decision," "To answer" and boxes of reference to other sections are merely provisional headings of a temporary nature and indicate a process of circulation and not a system of final classification and filing, but as it is precisely in the process of circulation that delay and difficulty usually occurs, the nature and use of such headings is also a matter of importance.

Card indexes [25] are, of course, useful, but the headings require to be skillfully compiled so as to follow the actual course of the business. A mere alphabetical index is only of limited value.

Filing requires sufficient space and is greatly assisted by a good equipment, but the equipment must be supplemented by a comprehension of the business and sound business procedure.

67. It should be clearly understood that if the business procedure is clumsy then the whole system of intercommunication suffers, for intercommunication does not merely consist in the transfer of particular documents from one department and section to another, but in each department knowing what business is being transacted in the others and where papers on any particular subject are to be found.

Historians, librarians, and archivists have the same problem to contend with, and the work is, in many respects, the same as archival or library work.[26] In the Bodleian or British Museum one goes to a large counter, examines the catalogue (of names, subjects, places, etc.), and asks for the manuscript, and the manuscript appears. In a large office or business dealing with current work it would require two counters—one dealing with papers in circulation on the same system as a circulating library, the other with records. The essentials of such a system are space, suitable equipment, *printed catalogues and indexes accessible for reference*, paper discipline, the limitation of periods of retention, and the abandonment of habits of personal custody.

A difficulty is, of course, experienced in dealing with confidential and secret papers, but this is easily surmountable on the lines adopted in the principal libraries and archives.

68. A brief sketch may be given here of the system in use in German staffs in 1905.[27]

The books laid down to be kept in every staff of importance were:

(a) The in-and-out books (Ein-und Ausgangsbuch) with registry number and date, with a Geheimbuch or "secret" registry. This corresponds to the ordinary registry book.

(b) The main book (Hauptbuch) with a sufficiency of pages given to the principal persons, offices, or establishments with whom correspondence is conducted, to contain a short note of the contents of correspondence and its number in the in-and-out books.

(c) The order book (Ordrebuch) contained all orders issued by the Allerhöchste Kabinett.

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[25] Card filing must be distinguished from card indexing, and is only suitable for information which can be expressed briefly, such as statistics, a state of accounts or stocks. A short precis of each paper entered on a card constituting a "Precis card file" is of great assistance, and can be arranged serially or under generic subject heads. This requires a trained assistant with a knowledge of the work.

[26] The additional MSS. at the British Museum are numbered serially as they come in and the series is provided with a copious subject index. The subject is dealt with in most works on historical methods. See Bernheim, "Lehrbuch der Historischen Methode," 6th edition, 1908, 550. See also "Manuel pour le Classement des Archives," Muller, Feith, and Bruin, 1910.

[27] Schellendorff, 4th edition, 50–53.

(d) The reminder book (Restbuch) contained for definite periods a list of matters outstanding with the time appointed for decision, report, or execution.

(e) Calendar for returns (Terminkalendar) giving the appointed dates for the receipt and dispatch of periodical reports and returns.

(f) Document list (Aktenverzeichnis)—a list of all documents in the bureau arranged according to the branches of business.

(g) List of service instructions to be kept in duplicate, one arranged according to date, the other according to subject.

In addition, the day book and operations journal were to be kept by the general staff, an assistant being allowed in an army command specially for this purpose.

The day books (Tagebucher) (corresponding to our military war diaries)[28] to be kept by all commands for information purposes and as the basis of a military history, contained the operational work of the day from the standpoint of the command concerned, giving information as to weather, and position and emphasising any important incidents, changes in the situation, adding any reports received or sent during the day, copies of battle reports or losses.[29]

The operations journal contained a list with date and time of all incoming and outgoing communications referring to strategical or tactical operations. This appears to have been merely a serial register of all operational communications.

These were to be carefully kept and *were to be accessible for immediate use* by all responsible staff officers.

There is nothing exceptional in the above system, for the in-and-out book corresponds to the ordinary register book, and the "main" book is merely an index of correspondence under the head of particular correspondents. These are kept in all properly conducted offices, but the main point is that the method is standardized and forms a subject of instruction for all staff officers. The system itself matters little so long as the object is attained, namely, to insure that all matters are properly recorded and that all papers on any particular subject *are readily accessible and producible*[30] in the shortest possible time. This appears simple, but experience shows that to attain simplicity in this direction is difficult.

69. The constitution of the secretariat, its organization and procedure, is, therefore, an important part of a staff system and the secretariat or bureau is an essential division of a staff, or, rather, it is the anteroom to all divisions and may be compared to a hall from which the various divisions open out. This aspect of a staff system has been largely overlooked in the navy, and its importance has not been sufficiently appreciated. A staff system can never attain any high degree of efficiency unless equipped with an efficient secretariat, a good record office open to all staff officers, a printed catalogue of all important papers, and a library containing all printed papers and confidential books.

70. In the German great general staff the distribution of business is under the chief of the general staff of the army; the central section or bureau deals with all questions concerning the personnel and internal economy of the general staff and from it emanates the official arrangements for all work and duties.[31]

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[28] See F. S. R., Part II, S. 140.

[29] C. von W., 39.

[30] According to the staff manual, "Files of staff correspondence will be accessible at all times to all staff officers." S. M., 18/6.

[31] Schellendorff (Hare), 38.

In great headquarters in the field, the general quartermaster, who acts as the first assistant (erster Gehilfe) of the general staff controls the general routine of business and acts as the deputy of the chief of the general staff in all matters not directly concerning the strategical direction of the war.[32]

In an army command the ober-quartermaster acts as chief of the bureau.[33]

In an army corps the quartermaster disappears and the chief of the general staff is responsible for the due direction of business.[34] For adjutantur business, i. e., officers affairs, reinforcements in men or remounts, order of the day, returns of strength, the senior adjutant acts as office chief, thus relieving the chief of the general staff from minor detail.

The term "adjutant" in the German system appears to be generally used in the sense of officers attached to a staff for bureau service or the carriage of orders, and the word "adjutantur" is sometimes used in a general sense to indicate this service.

71. The following principles for the conduct of business are laid down by Cardinal von Widdern for the conduct of staff work in great headquarters[35]

(a) "In general not to issue many orders and then always only of such a general nature as may be absolutely necessary in order to insure the decisions arrived at being carried out in the direction required. Further, never to hamper the initiative of subordinate commands in the execution of a decision, leaving entirely to them all dispositions which can be made more suitably on the spot.

(b) "Not to go into details of dispositions, but to keep subordinate commanders thoroughly informed of the general position of the enemy and of changes in his order to battle as well as of the decisive aspects of the situation and the tasks appointed to them.

(c) "To ask for frequent and, as far as possible, regular communications of any changes that have taken place and decisions arrived at."

"Generally speaking," says von Widdern, "the requirements (Willensausserungen) of the great headquarters took the form merely of instructions (Direktiven) containing not specific orders but rather points of view and indications, and so far as the situation admitted only for a limited period of time. These had then to serve for further decisions to be taken independently.[36]

"Thus on the evening of the 25th of August, when there was no certain knowledge of the intentions of the foe and time was precious, the commencement of counteroperations, the plan of which had been issued, was left to the general in command of the force which should first receive information as to the movements of the foe."[37]

The fundamental principle comprised in the above is the paramount importance of *keeping subordinate commanders fully informed as to the situation and being kept by them fully informed of their movements and intentions, while their actual movements are left largely to their own discretion.*

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[32] Schellendorff, 4th ed., 218; C. von W., 4.

[33] Schellendorff, 4th ed., 222, Vorstand des Geschäftszimmer (i. e., chief of the business room); Cardinal von Widdern uses the term Chef des Stabsbureau (chief of the staff bureau); C. von W., 29.

[34] Schellendorff, 4th ed., 225.

[35] Cardinal von Widdern, 11.

[36] Cardinal von Widdern, 6.

[37] Idem, 11.

Quite apart from the proved efficiency of the above methods, it is necessary to emphasize the fact that they constitute definite principles clearly laid down for the general conduct of business.

Again, it is stated that orders must not be issued direct to units, but only through the officer commanding the force of which they are a part. Orders should only be issued direct in exceptional cases, and when this is done the officer commanding the force of which they are a part should be informed at once of the orders given, the time of despatch, the answer made, and the action taken. It may be contended that this is merely the alphabet of staff work, but that does not diminish its importance as a subject for preliminary instruction.

72. Useful instructions for the conduct of business in a staff will be found in staff manual (provisional), 1912, which emphasizes the importance of simplicity of procedure and lays down as the essentials:

(i) The prompt despatch of outgoing correspondence.

(ii) The prompt distribution of incoming correspondence to the branches of the staff concerned.

(iii) The correct and systematic filing of all correspondence both incoming and outgoing, including records of conversations and interviews *in a manner suitable for easy reference.*

(iv) The accessibility of the files to all who have authority to see and use them.[38]

Paper discipline appears so simple that many are contemptuous of it. They are prepared to believe in complex things such as the "motion of a quadruply free cycloidal system with nondominant gyrostatic influences," but not in simple things like a good library of confidential books and papers. These are put away in drawers and safes, and perhaps months later the inability to get hold of the previous history of a subject leads not merely to the bafflement and delay of business, but possibly to a wrong decision based on insufficient grounds.

Stress, too, must be laid on conditions of space and office equipment, for questions of allotment of space and the juxtaposition of offices have a real and direct bearing on staff efficiency.

The finest organization profits nothing if the business procedure is unsound, for, if the office work is inefficient, confusion will arise at critical moments, and points apparently trivial, but perhaps of superlative importance, may be overlooked.

The memo. of 1912 laid down that a naval staff consisted of a branch to acquire the information (intelligence), a branch to deliberate thereon (operations), and a branch to put it into effect (mobilization); but to put it into effect means a carefully devised machinery of war, and can not be realized without a clear grasp of what is required. Business procedure does not open out new fields of work; it merely arranges the work in a proper form, and is therefore an essential part of staff work.

73. What is suggested is nothing new, but merely the standardization and adjustment of old methods to staff practice. All that is wanted is to separate the secondary from the essential, and to gauge the significance of business by its relation to operations.

Rapidity of decision combined with intensive investigation and expert knowledge of a wide and changing field of operations can only be gained by decentralization. But decentralization means uniformity of training and procedure, and is much more difficult to institute than a system of centralization. The numerous aspects of modern war and the enormous extension of specialized

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[38] S. M., S. 12.

technical knowledge render it imperative to evolve a system adapted to the vast range of business in which requirements of immediacy can be combined with thorough and intensive investigation. The man, however laborious, however intelligent, who thinks that he can himself attend to the details of the business of war, is like a child who builds with its small spade a bulwark against the advancing sea. The tide of reality rises and washes it away.

EXPLANATORY NOTE 1 ON COMMUNICATIONS.

(See paragraph 13.)

It has been objected that there are two principal "methods" of communication—(a) by signal, (b) by letter and telegram—and that, as the bulk of communications is done by letter, "communications" is really the function of the secretariat, and the word is merely a grandiose way of describing the despatch of an ordinary letter or signal.

The signal and the letter, however, are only the "form" of the communication, and this must be distinguished from the method of transmission (viz., signalling, telegraphic service, postal service), which is the essential aspect of communications. The question is not merely one of form depending on whether the communication is in script on paper or whether it has been written down in an abbreviated form on a signal pad, but as to the sufficiency of the system of transmission as a whole from an operational and tactical point of view.

This, of course, applies to communications outside the staff, and though "communications" inside the staff may be described more correctly as "distribution and circulation," and is part of the business of the secretariat, the process of transmission is not complete till the message or letter actually reaches the intended recipient, and internal methods of transmission are therefore a part of the whole system.

The actual supervision of any particular technical service and the disciplinary charge of the personnel is the business of the technical staff officers concerned, but the system as a whole may involve all sorts of vehicles of transmission, such as picket boats, steamers, trains, motor cars, despatch riders, the ordinary postal service or special messenger, the ordinary land telegraphic service, cable service, specially constructed lines (cable or land), wireless service (ordinary and special), and the efficiency and coordination of the various systems and their ability to meet strategical and tactical needs constitute the "war-staff" aspect of "communications." The war staff in its division of work must make provision for the consideration of questions relating to communications and for keeping in the closest touch with the same.

EXPLANATORY NOTE 2 ON THE TERM "GENERAL STAFF."

General staff is evidently the English form of the German "Generalstab" (see Murray's New Oxford Dictionary). In the German word the word "general" is evidently a substantive. Grimm's Wörterbuch[39] quotes "in der generalität oder generalstab"=in the "generality" or general staff; generalität is given as meaning the appanage of a general or the assemblage of generals, and generalstab is evidently the staff attached to a general. Grimm also quotes the generalstab "als commandostab des feldherrn," *i. e.*, the "command staff of the field commander." The German adjective for "general" is a different word, viz., "allgemeines" (for example, Allgemeines marine department, Allgemeine Kriegschule; that is, a general school for teaching both infantry,

[39] Deutshes Wörterbuch, Jacob und Wilhelm Grimm. Leipzig, 1897. Vol IV, General 2 (e) and (y).

engineering, and artillery work.)[40] In the German navy the corresponding body is called the admiralstab or admiral staff, which is fairly conclusive that the word in German is used as a substantive. The point of real importance, however, is that the term has been adopted by the navy to indicate that portion of the staff which is not the "personal staff," and this is directly opposed to the military use of the term as a special designation for the operations portion of the staff, a difference in meaning which might lead to confusion in combined operations. The French use the term "Etat-major naval" and "Grand etat-major naval."

EXPLANATORY NOTE 3 ON THE DELEGATION OF DUTIES IN ABSENCE OF COMMANDER IN CHIEF.

(See paragraph 60.)

The question of the procedure for the transaction of business in the temporary absence of the admiral or general commanding is one which sooner or later must come to the front in a staff system where the range of business necessitates details being left to the chief of the staff. To make the net senior officer responsible for the conduct of affairs of which he may possibly have very little knowledge, and with which his staff may not be large enough to cope, is neither fair to him nor to the operations concerned. It is clearly best that operations should continue to be conducted in the name of the command by the person who knows most about them, namely, the chief of the staff—so far at least as their conduct involves no pronounced departure from the general policy of the C. in C. If any large question were at issue, the C. O. S. would naturally consult the senior officer. The general principle appears to be that, while the disciplinary command devolves upon the senior officer, the staff work and control of operations should remain with the chief of staff. Even if the control of operations be definitely undertaken by the senior officer, it would still remain very desirable, if not absolutely necessary, for him to retain as his principal adviser the chief of the staff.

According to Schellendorff, the chief of the general staff is authorised, in the absence or inability (Behinderung) of the general commanding, to sign all urgent instructions (Sch. iv., 225).

The question of the position of the chief of the (general) staff in the case of a definite absence of the general commanding from headquarters or the area of command is[41] governed by an order of Friedrich Wilhelm of November 1st, 1855:—

(1) "If in the absence of the general commanding no special instructions have been issued by me as to his post being filled (über dessen Stellvertretung), the chief of the general staff will continue to transact current business. He is, moreover, authorised to issue orders to the troops on his own responsibility in the name of the general command (general kommando) in all urgent circumstances which admit of no delay, and in which he is convinced that he only from the standpoint of his office is in a position to survey and judge of the circumstances prevailing at the moment.

(2) "The general commanding and the chief of the general staff should not as a rule be absent at the same time from the seat of the general commands; if this be unavoidable, the powers given to the chief of the general staff under paragraph 1 do not pass to the officer taking his place. The latter is rather authorised only to transact business which does not depend upon the issue of

[40] Von Schellendorff, 4th edition, 37.
[41] Or was in the war of 1870–71.

orders. If orders are necessary, they are to be submitted to the senior divisional general for his completion (ausfertigung)." [42]

These pwers extended only to the conduct of operations, the disciplinary attributes of command and all its legal powers and the authority to grant leave passed to the next senior general. [43]

GREAT BRITAIN.

AMMUNITION HOISTS.

During a visit to the Armstrong-Whitworth works at Newcastle, a 1-ton pneumatic portable hoist was observed. From the design and description of its use, one could not escape the conclusion that it had been designed for and accepted by the Admiralty for handling major caliber projectiles.

Hoists of this design can be manufactured up to 5-ton hoists. The one which I saw was of the 1-ton type and had only recently been completed. It operated at 100 pounds per square inch pressure, and the control lever could be thrown from full speed ahead to full speed in the opposite direction just as quickly as the operator could move his hand from one position to the other. This portable 1-ton hoist is very light and appears entirely satisfactory for handling major caliber projectiles.

A new type of small air compressor has been developed for supplying pressure to these hoists, and it is understood that probably they can be located at no great distance from them.

GREAT BRITAIN.

GOVERNMENT DECISION RELATIVE TO COORDINATION OF DEFENSE FORCES.

The following are the recommendations of the special subcommittee of the Committee of Imperial Defense relative to the coordination of the defense forces of Great Britain. Although these decisions are not confidential, they are published herein in view of the agitation for the consolidation of the Army and Navy of the United States under a minister of defense:

II. The Coordination of the Defense Forces.

The following decisions have been taken by His Majesty's Government on the recommendations of the National and Imperial Defense Committee:

(1) It is undesirable and impracticable to supersede the ministerial heads of the three fighting services by making them subordinates of a minister of defense; the alternative plan for an amalgamation of the three service departments is equally impracticable.

(2) On the other hand, the existing system of coordination by the Committee of Imperial Defense is not sufficient to secure full initiative and responsibility for defense as a whole and requires to be defined and strengthened.

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[42] Order by Friedrich Wilhelm, Sans Souci, November 1, 1855, corrected by order of October 25, 1877. Schellendorff, 4th edition, 44.

[43] Order by Wilhelm, Berlin, October 25, 1877. Schellendorff, 4th edition, 45.

(3) Under the existing system the Committee of Imperial Defense, an advisory and consulat ve body, inquires into and makes recommendations in regard to the issues of defense policy and organization which are brought before it. The power of initiative lies with the Government departments and with the Prime Minister.

(4) This system, though invaluable up to a point, does not make any authority, except the Prime Minister, who can only devote a small part of his time and attention to defense questions, directly responsible for the initiation of a consistent line of policy directing the common action of the three or any two of the three services, taking account of the reactions of the three services upon one another.

(5) While, therefore, the existing system of departmental initiative will continue, the responsibility for the wider initiative referred to above in paragraph (4) will also rest with the chairman of the Committee of Imperial Defense acting under the general direction of the Committee of Imperial Defense and with the assistance of the three chiefs of staff.

(6) In accordance with the terms of the treasury minute of the 4th May, 1904, constituting the Committee of Imperial Defense in its present form, the Committee of Imperial Defense will continue to consist of the Prime Minister, as president, with such other members as, having regard to the nature of the subject to be discussed, he may from time to time summon to assist him. In pursuance of a decision by the Prime Minister, the committee places on record that the following should be members: The chairman (deputy to the Prime Minister), the Secretary of State for War, the Secretary of State for Air, the First Lord of the Admiralty, the Chancellor of the Exchequer, or the Financial Secretary, the Secretary of State for Foreign Affairs, the Secretary of State for the Colonies, the Secretary of State for India, the chiefs of staff of the three fighting services, the Permanent Secretary of the Treasury as head of the civil service. In addition to these, other British or Dominion ministers of the Crown and other officials, or persons having special qualifications, will be summoned as members by the president according to the nature of the business.

(7) The functions of the chairman of the Committee of Imperial Defense will be:

(i) To preside over the Committee of Imperial Defense in the absence of the Prime Minister.

(ii) To report to the Prime Minister (when he himself has not presided) and to the Cabinet the recommendations of the Committee of Imperial Defense.

(iii) In matters of detail, to interpret the decisions of the Prime Minister and the Cabinet thereupon to the departments concerned.

(iv) Assisted by the three chiefs of staff, as laid down in paragraph (5) above, to keep the defense situation as a whole constantly under review so as to insure that defense preparations and plans and the expenditure thereupon, are coordinated and framed to meet policy, that full information as to the changing naval, military, and air situation may always be available to the Committee of Imperial Defense and that resolutions as to the requisite action thereupon may be submitted for its consideration.

(8) In addition to the functions of the chiefs of staff as advisers on questions of sea, land, or air policy, respectively, to their own board or council, each of the three chiefs of staff will have an individual and collective responsibility for advising on defense policy as a whole, the three constituting, as it were, a superchief of war staff in commission. In carrying out this

function they will meet together for the discussion of questions which affect their joint responsibilities.

(9) Questions relating to coordination of expenditure may be entertained by the Committee of Imperial Defense when referred to it by the Cabinet. The committee (subject to any directions by the Cabinet) will consider such questions in the light of the general defense policy of the Government and of the strategical plans drawn up to give effect to that policy in time of war.

(10) The secretariat of the Committee of Imperial Defense will continue to act as liaison officers between the chairman of the committee and the service departments. The staff of the committee will be strengthened by the addition of an assistant secretary, to be nominated by the Prime Minister on the recommendation of the Secretary of State for Air, whose status will be identical with that of the three existing Assistant Secretaries nominated by the Prime Minister on the recommendation of the Secretary of State for War, the Secretary of State for India, and the First Lord of the Admiralty.

(11) The standing defense subcommittee is suppressed and its past proceedings will be merged into those of the Committee of Imperial Defense.

GREAT BRITAIN.

MAIN BATTERY OF "NELSON" AND "RODNEY."

There appears definite verification, although not from official Admiralty source, that the two new battleships will mount nine 16-inch guns in triple turrets.

At Vickers (Ltd.), Sheffield, I saw one 16-inch tube and one 16-inch jacket being machined for the new program. I also saw a large quantity of wire 0.25 inch wide and 0.6 inch thick. This apparently was for the new 16-inch guns. The wire-wound gun versus the built-up gun was discussed at some length at both plants, from which discussion it was evident that both firms favor the wire-wound gun, apparently principally because they are familiar with its manufacture and therefore advocate it, and the opinion was expressed that although there has been considerable discussion the Admiralty would never change from it.

No information was obtainable from Vickers or Armstrong's as to the weight of these guns. At Vickers it was stated that in the manufacture of the standard 15-inch naval gun 125 miles of 0.25 by 0.06 inch wire was used. The lengths of wire are joined by overlapping the ends for 14 inches and tapering them so as to give the same thickness, namely, 0.06 inch, for this overlapping, which is riveted together with 30 rivets.

Although not allowed in the gun shop of the Armstrong-Whitworth Works, I was told that three 16-inch gun forgings had been received from the Armstrong-Whitworth Works at Manchester. I was informed at Vickers, Sheffield, that they had turned out to

date three 16-inch forgings also. This may be taken to indicate accurately the progress in major caliber gun construction for the new battleships.

GREAT BRITAIN.

ORDNANCE—FUSES.

A mechanical time fuse for antiaircraft projectiles was seen being manufactured at Woolwich.

This fuse has a clock mechanism which runs for 60 seconds. The shock of discharge presses down a lever against a spring requiring a puressure of 10 pounds to compress it, which releases a so-called "hand," corresponding to the second-hand on a watch, but of a special design. The release of this hand releases the clock mechanism, which begins to operate and rotates the hand. This hand rotates until it reaches a position immediately opposite an opening exactly similar in design to the shape of the hand. When it reaches this opening the hand is forced by a very strong spring through the opening. The motion is so quick that it is hammerlike in action. The hand carries with it a firing pin which strikes and explodes the fuse. The opening of special design is in a disk, around the circumferential edge of which is a scale graduated in seconds up to 60. Thus, by setting the time on this scale, the correct time setting for the operation of the fuse is given.

An additional safety device is provided which is operative during the handling of fuses and fusing of projectiles, and until the projectile has traveled a distance corresponding to five seconds from the time of discharge. This safety device is operated upon the centrifugal principle and locks the mechanism for five seconds until the shell has rotated sufficiently to operate this centrifugal safety device. This safety device prevents the operation of the fuse while traveling through the gun and for a sufficient distance from it to insure safety.

It was stated that this fuse was the most recent design they had and had given sufficiently satisfactory results in its test to justify the manufacture of a considerable number for use in service, but whether or not it will be adopted as standard depends upon the results of use in service.

GREAT BRITAIN.

VISIT TO TORPEDO AND MINE SCHOOLS.

Practically all instruction of commissioned and enlisted personnel in torpedoes is carried out on the three vessels H. M. S. *Marlborough*, H. M. S. *Warrior*, and H. M. S. *Donegal*, all three being familiarly

termed "H. M. S. *Vernon*." The torpedo school is under orders to be transferred ashore to a permanent establishment, the buildings of which are now in process of erection in the Portsmouth Navy Yard. While the orders specify they shall be ashore by October 1, 1923, my observation indicates that probably it will be about six months later than that date before they are established ashore.

The number of officers and men under instruction varies from time to time. In this connection it will be recalled that report was made recently that the number of torpedo men under instruction would be in excess of the normal allowance until further orders.

It should be recalled that the electrical instruction is part of the torpedo school in the British Navy, the electrical artificers being trained on H. M. S. *Vernon*. There appears to be no serious contemplation for separating these two schools. They are intimately associated, chief members of the staff having administrative duties over the combined torpedo and electrical schools.

The torpedo school, including electrical instruction, and the mine school have been combined into one establishment, called H. M. S. *Vernon*. At the present time the torpedo school and the mine school are entirely separate.

The mine school for the past few years has been separated from the torpedo school and well established on shore at Portsmouth Navy Yard. At present there is a separate commanding officer for the torpedo school and one for the mine school, both being captains, R. N. When the torpedo school is established ashore, the torpedo and mine schools probably will each have a senior commander in charge of them, with a captain in command of the torpedo and mine schools for administrative purposes. The commanders at the head of each school will handle practically all technical matters within their respective schools, the captain, being the administrative head, dealing largely with matters of policy and outlining the program of experimental work, etc.

All torpedoes are now manufactured at Greenock, Scotland, near Glasgow. The reserve supply of mines was stated to be large and none are under manufacture now. All experimental mine work is done at the mine school, and the manufacture of mines, anchors, mooring gear, etc., required for experimental work is done at the mine school, Portsmouth. All mine design work is done at the mine school, Portsmouth.

The design force at present consists of one commissioned officer in charge, with 10 civilian designers. These men are professional design men trained from civil life, about 50 per cent of them previously having been automobile designers. They are especially selected men and usually those who hold some degree from a techni-

cal design school. The commanding officer of the mine school stated that of the 10 he now has he considers that about 5 of them are really excellent men, and they have reached a point now where he can outline the problem, and he believes they will be able to originate and initiate most of the design work. Whenever any of these men produce design work they are sent out on the mine school tenders to observe the operation of the actual material under service conditions. In this way gradually they are developing a permanent mine experimental staff.

There are two tanks for mine experimental work, one large one 60 feet deep and 30 feet in diameter, and the other considerably smaller. The smaller tank is used for such work as testing the life of soluble washers or other material, or for work which requires that the mine or material remain in the tank for a protracted period of time. The equipment of the large tank is complete and excellent throughout. It is constructed of steel and was being scaled and repainted during my visit. It is equipped with a passenger elevator, with landing stages about every 10 feet, with a number of glass observation ports for each landing. About halfway up is an ex-German submarine mine tube, with complete installation for launching mines from submarines. (This tube, with equipment complete, was one of the latest designs in the German submarines, and if my memory serves me correctly it was stated to have been removed from *U–126*.)

Arriving by electric elevator at the top of the tank, there is a large platform which is completely enclosed, enabling work to be carried on throughout the year in all kinds of weather. On this platform there are three tracks for launching mines, said to be the same as fitted on board ship. It was stated that the same type of mine track, the ordinary channel-bar type, is on all classes of mine layers except submarines and including destroyers. Two of these mine tracks are fixed, the third is mounted on a movable platform which can be raised 20 feet above the platform. The tank itself is fitted with a wooden false bottom, which can be raised or lowered by means of four steel cables over ordinary pulleys operated by power. This false bottom is said to be invaluable and one of the most important features of the tank. After planting a mine and leaving it submerged and observing it for the required period, they raise the false bottom to facilitate observation of the material under experiment, and can then lower the mine again immediately to the required depth. On the upper platform, at the top of the mine tank, there is a register which indicates the exact depth of the false bottom of the tank. The commander, R. N., in charge of the mine school, next in command to the captain, stated that he thought they

had to hand it to the Germans for having produced a successful mine-laying submarine before anyone else. He considered the ex-German submarine mine tube quite efficient.

The ex-German submarine mine tube has operated very efficiently. The commander, R. N., who escorted me through the mine school, stated that British submarine mine tubes are designed upon the same general idea, the mine tube being in the stern of the submarine and of the horizontal type. A number of British submarine mines were seen, being all of the same design, and designed to be planted through this type of tube. They are pushed out of the submarine by means of a rack and pinion. It is understood the British mines are stowed about the middle of the submarine in order to avoid sudden changes of weights in the ends of the submarines and the consequent effect upon the trim.

MINES.

The captain, R. N., in command of the mine school, stated that during his two years at the mine school he had concentrated the personnel upon producing a standard mine and in overhauling and bringing up to date, in accordance with this standard mine, the large number of mines which remained on hand at the end of the war.

The British standard mine is of the horn type with a glass tube containing chemicals. There are 6 horns, 4 on top, with 2 on the bottom. Sometimes a seventh horn is placed on top. This mine is generally known as the H 2 mine, well known to our Navy Department. Only slight modifications have been made, with no change in principle. It will be recalled that this mine was adopted from the Germans, who in turn obtained it from the Russians, who were the original inventors of this type of mine.

The British submarine mine is an adaptation of this standard mine with slight modifications, but no change in the principle.

During and since the war the British have found that in a number of their mines which have been in service for some months there is water in the cases in spite of all tests with a view to elimination thereof. Therefore they have attempted to design a water-tight detonator case, but without success to date. They have been experimenting for two years with a view to overcoming this difficulty. They are interested, especially, to know whether we have been successful in this respect.

All British mines are now filled with T. N. T. with a booster charge of tetryl and a primer of fulminate of mercury The British standard mine contains 320 pounds of T. N. T. There appears to be little difference between the British standard mine and the

British standard submarine mine. The submarine mine case was stated to be 38 inches in diameter.

MINES OF OTHER NATIONALITIES.

The British mine model room contains types of mines of most of the nations of the world, among which were seen Russian, Italian, Austrian, German, American, Swedish, and Norwegian mines. No Japanese mines were seen.

OSCILLATING MINES.

The British have a small oscillating mine which I was told was of no practical value. My informant stated they had not been able to design "raising and lowering gear" which could withstand over 48 hours' service. He stated that he and their other experts consider an oscillating mine is the ideal mine if it could be successfully designed, and that they expect to continue extensive experiments with a view to producing one.

TIDE OR DRIFTING MINES.

The officer who conducted me through the mine school stated that this type of mine he considered as dangerous to oneself as to the enemy, and that they had not made any progress along this line since the war.

MAGNETIC MINES.

The magnetic mine, familiarly termed the "M" mine, was observed in the model room. The chief characteristics, firing device and principle, remain the same as at the armistice in 1918. I was informed that with only slight modifications in the operation of the needles it has given very successful results. Experimental operations with it have been conducted since the war, and it is considered a successful mine, but being a ground mine, containing 1,000 pounds of T. N. T., its use is considered to be limited to certain depths of water, etc. The one I saw appeared to be exactly the same as that produced about the time of the armistice in 1918.

ACOUSTIC MINES.

The acoustic mine, generally termed the "A" or "HA" mine, was not seen. I was told that the British have done nothing with the development of this type mine since the war. My informant considered that if it were made sufficiently sensitive to operate under service conditions it would go off so far from the ship as to be valueless. The other disadvantage being that if it were not made so sensitive enemy vessels knowing that such type of mine had been developed by an enemy power could by running slow avoid setting off the mine. He did not seem to consider it of much practical value, or at least he so stated.

PARAVANES.

There is one lieutenant, R. N., at the mine school, whose sole duties are in connection with the experimentation with, and development of, paravanes. He stated the latest type of antisubmarine paravane is upon the same principle as our Mark VI mine of the sea-battery type. It is designed to be towed by destroyers and is said to contain from 80 to 100 pounds of T. N. T.

TIDAL CURRENT GAUGE.

At the mine school an ingenious and very efficient tidal current gauge for measuring the strength of tidal currents was seen. It is torpedo shaped, with one vertical vane on the tail and a four-bladed propeller on the forward end. As the propeller rotates, it operates through mechanical gearing an electromagnet. For a given number of revolutions of the propeller a click of the electromagnet is produced. A set of microphone receivers is connected to the electromagnet. An operator in the observing station, with the microphone receivers, by counting the number of clicks of the electromagnet, obtains accurately the strength of the tidal current. This device has given excellent results and is said to be accurate to within one-tenth of a knot. This device is familiarly known as " Daisymetre."

TORPEDOES.

During my visit to the torpedo school I saw what was called a colored drawing of a depth engine for control of the depth of torpedoes. This drawing was for instructional purposes in H. M. S. *Vernon*, and was labeled " Greenock depth engine." It appeared to be exactly the same as the Mark XX depth engine described in the British Annual Report of Torpedo School, 1916. This drawing did not indicate any late modifications, and upon inquiry I was informed that it was one of the first experimental ones of that type produced. I stated that I had been interested in this type of depth engine during 1918, and inquired as to what progress had been made in improving it. I was informed that certain modifications had been introduced and that it now proved entirely successful. They were especially pleased with the results that have been obtained in controlling the depth upon discharge from above-water torpedo tubes at high speed. My informant stated that he could not give me any information of these new developments as their improved depth engine of this type was held among them most secret. He stated that in order to overcome the difficulty upon initial discharge of the torpedo, with reference to depth taking, they had, from their experimentation, reached the conclusion that they had been working along the wrong lines for some time, and that the modifications

which they had introduced in their several improvements of the Mark XX depth engine they had taken from some German torpedoes of late design which had fallen into their hands during the latter part of the war. Further than that statement he would not give any information.

I was told that they had been experimenting with the development of a 26-inch torpedo, but that none had been satisfactorily developed to date. The present torpedo, 21 inches, contains 500 pounds of T. N. T.

I made specific inquiry concerning a certain type of so-called "Gill" propellers for torpedoes, which, I had been told, were to be adopted as standard for future production. This officer stated he had never heard of them. He said they had tried out four-blade, curved-type propellers, similar to those used by the Germans, but did not like them.

DEPTH AND ROLL RECORDER.

A new type of depth and roll recorder was seen at the mine school. The foreman of the shop, who is the inventor, said he considered it much superior to the Barr & Stroud depth and roll recorder. While it appears somewhat complex, probably it will give more accurate results. It has not yet been perfected.

SPRINGS.

Within the past year a special establishment has been inaugurated at the mine school for special heat treatment of springs. It was stated that so much difficulty had been experienced in obtaining satisfactory springs from commercial sources which were sufficiently accurate that they had been compelled to resort to developing an establishment of their own.

In the special heat treatment it was stated that the most important factor was an oil bath, heated to a temperature of 830° C., rolling the springs in the oil bath continually while they are in the bath, which insures giving them a uniform temper, and it was stated that the loss of heat between the furnace and dipping them in the oil bath of over 10° would produce inaccurate springs.

UNDER-WATER EXPLOSIVES.

Very extensive under-water explosion experiments are undertaken periodically. I saw hundreds of steel gauges to be used in this connection. The steel gauges with copper disks to register the pressure are used in explosion tests at various distances from explosive charges of various sizes, and they are gradually developing a general curve in connection with under-water explosions.

At the torpedo and mine schools it was stated that the explosive now used in all mines, torpedoes, depth charges, and bombs is T. N. T.

SEARCHLIGHT LAMPS.

At the torpedo school I saw a "Harrison" lamp for searchlights. An electrically driven motor, which mechanically feeds two carbons, large and small, is fitted with a wiping, or short-circuiting electrical contact for igniting the two carbons. A special pump, operated by the same electrical motor, pumps mentholated spirit through two sprays onto the carbons, thereby keeping oxygen from the carbons and keeping them cool. A very powerful light is produced. Extensive experiments with various types of searchlight lamps has resulted in the adoption of this type as standard for the British Navy.

JAPAN.

ACCIDENTS TO DESTROYERS.

During the recent maneuvers in the vicinity of Seki-wan the following accidents to destroyers have been reported in the Japanese press:

On July 10, 1923, at about 10 p. m., while maneuvering, the *Yamogi* and the *Tade* collided. Both ships were able to make port under their own power.

On July 13, 1923, while maneuvering at high speed, engaged in night firing, an explosion took place on board the *Kaki*. Just what this explosion was is not clear from the press reports, but it is stated that the starboard engine was totally disabled and the port engine damaged so that the *Kaki* was unable to maneuver under her own power. She is stated to have been seriously damaged.

On July 16, 1923, the *Yakaze*, while running at a speed of 35 knots, due to excessive heat development "her propeller melted and was washed off." (Probably a broken tail shaft.) It was necessary for her to be towed to port.

JAPAN.

AVIATION BOMBING.

PRACTICE.

According to the Japanese press, on July 5, 1923, bombing practice was conducted off Yokosuka Harbor, using live bombs. Bombs were dropped from various types of hydroplanes at heights varying from 200 to 1,000 meters. The weight of bombs used varied between 100 and 300 pounds. Accuracy and detonation was said to be satisfactory.

JAPAN.

CHINESE BOYCOTT AGAINST JAPANESE GOODS.

The Chinese boycott against Japanese goods in the Yangtse Valley and Southern China is arousing resentment in Japan. Apparently it is having very serious effects in business circles, particularly in the Osaka-Kobe region of Japan. Various meetings have been held and memorials have been presented to the Japanese Government demanding that steps be taken toward China in regard to the boycott. Various measures in retaliation have been proposed and even the application of force has been advocated, but no definite plan that seems at all feasible has been proposed.

According to a press report of an interview with Mr. Yamashima, vice president of the Tokyo Chamber of Commerce, the statement was made that it has become clear that America was behind the Chinese boycott, and since this was true, Japan had to act with the utmost caution in China.

JAPAN.

MAIDEN TRIP OF NAVY DIRIGIBLE "NO. 2," ASTRA TYPE.

The above dirigible made a successful maiden flight on July 10, 1923. She left Tokorozawa at 7.50 a. m., flew over Tokyo, and returned to Tokorozawa at 8.50 a. m. The trial was entirely satisfactory.

JAPAN.

NEW NATIONAL DEFENSE POLICY.

Source: Japan Chronicle, June 6, 8, and 9.

The following articles, which appeared as a translation in a Japanese newspaper printed in the English language, are quoted verbatim. Although these articles are nonconfidential, they are published herein on account of their great interest, and because they would otherwise be unavailable to the service. Captain Misuno, the author, was retired from the Japanese Navy a few years ago on account of the freedom with which he expressed his opinions in print:

Capt. Mizuno Hironori, whose article on the psychology of soldiers and sailors cost him his position in the navy department a few years back, deals at great length in the current number of the Chuo Koren (Central Review) with Japan's supposed new national defense policy.

Early this year, he begins, Admiral Baron Kato, the premier; General Uehara, chief of the general staff; and Admiral Yamashita, chief of the naval general staff, were reported to have proceeded to Numaza on the same train in order to wait on the Prince Regent there, evidently concerning a very grave affair

bearing on national defense. A few days later, a certain big Tokyo paper came out with the following paragraph under the caption: "The new national defense policy finally decided on":

"* * * In case the Empire goes into war with a certain imaginary enemy and is blockaded, it will be necessary for her to obtain foodstuffs and munitions of war from the neighboring countries. The army is then to take certain action under the stress of necessity. Complete connection is to be established across certain straits, remote regions are to be placed under strict guard, military action is to be taken in certain areas on the continent, and the disposition of troops changed. The capital ships of our navy having been reduced to a ratio of 6 for Japan to 10 for the American Navy as a result of the Washington conference, efforts are to be directed to the strengthening of subsidiary vessels. As regards the army, the peace establishment is to be reduced to 21 divisions with 230,000 men, which, however, are to be increased to (———) divisions in war time, new weapons are to be supplemented, and so on. In short, considerable changes have been made in the scheme of national defense as a national result of the Washington conference and the reduction of the army * * *."

But this is by no means a new policy, for it merely embodies in definite shape what has already been openly avowed or insinuated by the war minister, etc., in the Diet and elsewhere. The authorities may perhaps refuse to admit the truth of the report as a mere newspaper report in which credence can not be placed. But there are many reasons to believe that the report is only too well founded.

MONOPOLY OF NATIONAL DEFENSE.

Under the present system, it is the general staff in the case of the army and the naval general staff in the case of the navy that devises the scheme of national defense, which is then adopted technically by the Emperor, who decides the organization of the army and navy and the size of the standing establishment (constitution, art. 12), but really by the group of military and naval officers known as the highest military council. The scheme so adopted is carried into execution by the war and navy ministers who by reason of the special qualifications legally acquired for the posts are a constant menace to the Government. The scheme of national defense is thus formed by soldiers, adopted by soldiers, and enforced by soldiers. At the last session of the Diet, the Premier, Admiral Baron Kato, declared that the national defense was not to be monopolized by soldiers. But it is monopolized by soldiers—and by benighted and militaristic soldiers who lack economic knowledge and political insight at that! The question of national defense is the most important part of the affairs of State, involving, as it does, 40 to 50 per cent of the national expenditure. The nation is therefore betraying a surprising unintelligence and irresponsibility when it leaves the matter entirely in the hands of fighting engineers and does not care a straw how the business is being handled.

RELATIONS OF ARMY AND NAVY.

From the war with China to that with Russia, Japan's imaginary enemy was, of course, Russia, both by land and sea, and, in consequence, a comparative harmony was maintained between the army and navy, which were to be like the two wheels of a wagon and the two wings of a bird. The nation was also bent on avenging itself on Russia, and did not complain even though the military and naval estimates reached 50 per cent of the total expenditure in 1900 and 1901. In consequence of the annihilation of the Russian navy as a

result of the Russo-Japanese War, however, and the growth of the American Navy, the imaginary enemy for the Japanese Army came to differ from that for the navy, for while the army continued to regard Russia as Japan's possible enemy, the navy began to provide against America. The harmony between the army and navy was broken and an intense fight ensued between them for more and more spoils from the budget. At that time the relations between Russia and Japan were comparatively satisfactory, Russia stopping her far eastern activities in order to adjust her internal affairs, and an alliance being even suggested between Japan, Russia, and Germany, while, on the other hand, various troubles arose between Japan and America over the schoolboys and the emigrants, and rumors were circulated both at home and abroad about a possible war with America. The nation having also undergone a painful experience through the menacing activities of the Baltic and Vladivostok fleets during the war with Russia, a body of opinion gained ground that the navy should be the first line of defense and the army the second. Besides national sympathies were with the navy, patterned upon British liberalism, rather than with the army, organized and modeled on German militarism. It was for these reasons that while intense opposition was raised by the nation to the proposed increase of the army by only two divisions, huge estimates for the building of an eight-and-eight fleet were easily passed in favor of the navy.

THE IMAGINARY ENEMY.

The collapse of imperialistic Russia has deprived the Japanese army of its imaginary enemy, for, though Soviet Russia is said to be in possession of an army ranging between 800,000 and 1,000,000, yet in view of her economic capacity, diplomatic policy, and strategic position it is absolutely impossible that she should venture upon military aggression upon Japan in the near future. This is why so much cry is being raised for the reduction of the army. At the same time the navy has also had its strength limited by the Washington resolutions. These circumstances have induced the army and navy to fix upon a new imaginary enemy and re-form the scheme of national defense accordingly. One of the important changes attendant upon the new national defense policy is that the army and navy have now an identical imaginary enemy after having drifted apart from each other subsequent to the war with Russia. What country is the imaginary enemy can be easily inferred from a study of Japan's geographical, economic, and political position among the nations. It must be either Britain or America, for the authorities could not be so mad as to devise a national defense policy against Britain and America combined. But Britain is not yet recovered from the wounds she sustained by the war, and her attitude toward Turkey, for instance, shows that she can not have any intention to wage another big war in the near future. Besides, she has serious weak points in the Far East and Australia from a military point of view. With its great intelligence, therefore, it is absolutely impossible for the British nation to challenge Japan to war unless Japan infringes her interests. The only country which has her chance of entering into war with Japan is, then, the United States. We neither wish for nor expect a war with America, but we must always presuppose an imaginary enemy when discussing the question of national defense in a concrete manner, for armaments without an imaginary enemy are like shooting without a target. It is only out of diplomatic caution and courtesy that the authorities say that Japan's national defense is not directed against any imaginary enemy. When a nation sets up armaments it is an

unpleasant but unavoidable necessity that it should choose as the imaginary enemy a friendly nation with which it has the greatest chance of going to war. It is then on this supposition that the new national defense policy has to be discussed.

IF JAPAN AND AMERICA FIGHT.

When Japan has a naval force represented by 6 against 10 for America, it is absolutely impossible that Japan, extending over 1,000 knots from the Osumi Strait in the south to the Tsugara Strait in the north, should be "blockaded" in the technical sense of the word. If the country is to be blockaded, it must be after she has lost all her navy. Taking the word in the loose sense of "having foreign trade cut off," however, as is evidently the case with the reported national defense policy quoted at the outset of this article, there is no doubt whatever that Japan will be blockaded to a considerable extent in the event of a war with America. For the trade with North and South America will entirely cease. Owing to the activities of American cruisers and converted cruisers in the Atlantic and Mediterranean, trade with Europe must also be reduced to a half. Dealings with Australia and South Africa will likewise be menaced to some extent. Moreover, as the British Colonies will be kindly disposed to America in case of a war between Japan and America, it will be extremely difficult for Japan to get goods from these countries. Even supposing, therefore, that Japan will succeed in having the mastery of the China Sea and the Eastern Sea by taking or bringing the Philippines under control, the regions in which Japan can safely trade will be roughly limited to the areas from India eastward. If she does not succeed in taking the Philippines, Japan's trade will be confined to water from the Straits of Formosa northward. In these circumstances it is evident that "it will be necessary for her to obtain foodstuffs and munitions of war from the neighboring countries." According to the new policy quoted, the army is then to take certain action under the stress of necessity; that is, to take the necessary goods by force from the neighboring countries. Now, the neighboring countries in which Japan can use force will be China and Russia (Siberia). But as Siberia is still backward in civilization and poor in production, China must be the country which the army has chiefly in view. If so, the Japanese militarists are still treading in the steps of Germany, which incurred the world's antipathy and enmity by trampling upon the neutrality of Belgium. No wonder that China should dread and hate and turn her back upon Japan.

THE ECONOMIC SIDE.

In modern war, continues Captain Mizuno, economic power plays even a more important rôle than military power itself. Apart from the general decline of economic power resulting from the stoppage of the export of raw silk, the inactivity of the cotton spinning owing to the shortage in supplies of raw cotton, therefore, it is necessary to consider the question of iron, raw cotton, wool, oil, and foodstuffs, which are essential to the prosecution of war and the living of the nation and the supplies of which are pronouncedly short in this country.

Iron.—Iron is the most important munition of war. According to the investigations made by the Japanese Army, one soldier must have expended from 3 tons to 3.8 tons a year in the European war. At this rate the quantity of iron required for an army of 1,000,000 men will be from 3,000,000 to 3,800,000 tons a year. Though in the surmised war between Japan and China, in which fighting by land will not be on so large a scale as in the European war, so much will not be required, yet the consumption will reach two or three times

the figure for normal times. Now, by working the furnaces in Japan, Korea, and Manchuria to their fullest capacity, it is calculated that it will be possible to bring the annual production up to 1,360,000 tons of pig iron and 2,150,000 tons of steel, though even the highest record year (1919) produced no more than 620,000 tons of steel. And 2,150,000 tons of steel are about twice the normal annual consumption. But with adequate supplies of ore it will be practicable to increase the figure further still; of the iron ore used here, however, only less than one-third is produced in Japan and Korea, while the rest is imported chiefly from China. Further, the iron ore, ingots and slabs, plates, rods, bars, wires, and tubes imported during 1921 aggregated ¥157,946,000 in value, of which 60 per cent was from America, less than 20 per cent from Europe, and a little over 10 per cent from China. In addition, Japan annually imports a large quantity of iron goods in the shape of building materials, cars, machinery, etc., of which 10 per cent is from America. In view of these facts, it is clear that even if the military demands for iron can be met by importing raw material from China, the stoppage of American iron and steel during the possible war must deal a pretty serious blow to Japanese industry. If even Chinese iron can not be obtained, Japan will be in no position to prosecute war. The military authorities are therefore entirely justified in turning their attention to Chinese iron, but how to get it is a question that should not be left to the care of mere soldiers.

Raw cotton.—Of raw cotton, which is essential to cotton spinning, the most important industry in this country and also as material for gun cotton and other munitions of war, about 50 per cent of the total value imported (¥438 millions in 1920) is from America, while only 5 per cent is from China. Should Britain show good will to Japan, so far as to allow Indian cotton to be freely exported to this country, no deficiency will perhaps be felt so far as material for explosives and the nation's clothing are concerned. But the cotton industry will sustain a fatal blow and the national economy may well be shaken to the foundations.

Petroleum.—A leading part in the possible war with America must necessarily be played by the navy, for there will hardly be any room for the army's activities unless it be for the taking of the Philippines and the bringing of China under control. As fuel for warships, heavy oil is more important than coal. In this country, however, the annual production of petroleum is only 330,000 tons (that of heavy oil being only 50,000 tons). Now, 50,000 tons of heavy oil can not feed the whole fleet for more than one month with the strictest economy. This is a fatal flaw in Japan's national defense, and this is also what makes the authorities hanker so much after northern Saghalien. Even in time of peace the native production can not meet even half the demand by way of fuel for internal-combustion engines and lighting, so that ¥16,721,000 worth of petroleum was imported in 1921, of which ¥11,608,000 was from America.

Wool.—Wool and woollen textiles are also essential for military and living uses, but for the supply thereof Japan is entirely dependent on Australia, England, and Africa. The supply of these goods during the war must thus depend on the mastery of the sea by Japan and the good will of the supporting countries.

From the above it will be seen that in the present state of Japan's foreign trade, the goods of which Japan can get supplies from China are limited to the greater part of her iron and 5 per cent of her raw cotton. It is thus clear that even if Chinese goods are put under forcible requisition it will not be sufficient to meet all of Japan's demand for munitions of war.

On Wednesday we gave a translation of the first part of Captain Mizuno Hironori's article on Japan's defense policy, which appeared in the Chuo Koron. The remainder of this interesting exposition follows:

Captain Mizuno having in the first part of his article gone into the question of the "imaginary enemy" and the dissensions between the army and the navy on this point proceeds to a consideration of the weakness imposed on Japan by the Washington conference and the economic effect that this would have, as he supposes, upon Japan in case of a struggle between Japan and America. He dwells upon the military-economic assumption that Japan must depend upon China for supplies, and it is curious to note that he takes the view that China as a neutral would not supply the necessaries that Japan would require during the war. In this he takes a similar outlook to that of the general staff which gave Mr. Thomas Lamont to understand that Japan's strategic needs required a hold over Manchuria and Mongolia greater than those conferred merely by a natural position of superiority in trade, and it will be remembered in this connection that the late Mr. Hara, replying to Baron Fujimura in the House of Peers as to whether the Government did not consider that the open door ought to be maintained in Manchuria and Mongolia, replied that Japan's peculiar position rendered it impossible for her to take this view, and that the powers concerned well understood her attitude. The Japanese attitude, in short, is that there must be a real grip upon these regions which would leave China no option regarding the supply or the withholding of goods. As a matter of fact, the Washington treaties practically place in Japan's hands the power of drawing her resources in war time from China, so that the authorities can disown with complete safety and even sincerity the defense scheme the disclosure of which by the Yomiuri in April last year caused such a sensation. As for the question of war, as apart from these strategic preparations for it, Captain Mizuno's views, as well as criticism of them, must be held over for a third installment of his article.

EFFECT ON TRADE OF WAR WITH AMERICA.

The greatest pain of all that Japan would feel in consequence of a war with America would be economic. Of the total amount of raw silk, silk textile, waste silk, and floss silk exported in 1921 (¥518 millions), 82 per cent was to America. The stoppage of this export will obviously result in a sudden and complete ruin of those interested in raw silk and silk textiles. Next, the total value of cotton yarn, cotton textiles, and hosiery exported in 1921 was ¥297 millions, but the export of these goods would be sadly affected as a necessary consequence of the decrease in the supply of raw cotton during the war. The following figures show the percentage of the export of raw silk and silk goods and that of cotton goods to the total export for 1921 (¥1,252,850,000):

	Per cent.
Raw silk and silk goods	42
Cotton goods	24
Total	66

Thus, if the export of silk and cotton should entirely cease during the war, Japans exports will be reduced by 66 per cent, and even if the export of raw silk and silk goods be reduced by 80 per cent and that of cotton by 50 per cent, as a stoppage of trade between America and Japan, the total volume of exports will still be reduced by 45 per cent. Next, even supposing that Japan will continue to hold the mastery of the sea from India eastwards and the

powers will remain strictly neutral, Japan's trade will be reduced by about half. But the greater part of exports to Asia being manufactured out of raw materials imported chiefly from America, the decrease in the import of those materials will necessarily result in a corresponding decrease in the export of goods manufactured thereof. In short, Japan should make up her mind that in the event of a war with America her foreign trade will be reduced to a point far below 50 per cent.

ABACUS RATHER THAN SABER.

It is claimed by some people here that war can be conducted even without money, as the experience of the European war shows. But this remark applies only to nations which enjoy economic credit that enable them freely to borrow money abroad or which are independent of foreign countries for their supply of materials of war and living. The failure of Russia is supposed to be due to the exhaustion of her economic power and her inability to raise the wherewithal to buy munitions of war. As Japan is dependent on foreign countries for the supply of materials of war and living, it is evident that she should have adequate funds to buy them with. Even if China can be brought under control, as meditated by the authors of the new national defense policy, goods can not be exacted from her without adequate payment. Besides, in the case of a war with America, America must, for strategic reasons, try and impede the import of goods from neutrals to Japan, and there is no doubt that there will be a purchasing rivalry between America and Japan in neutral markets. Even in China, which is expected to be in Japan's sphere of influence, America can buy goods through neutral citizens. As for Indian cotton, Dutch oil, and Australian wool, they must necessarily get into the hands of the higher bidder of the two, unless the Governments and peoples concerned are favourably disposed to Japan. In this way the Americo-Japanese War will be a monetary war rather than an armed one. Now that international law and regulations for the conduct of war have no authority whatever, the distinction between contrabands and noncontrabands and between combatants and noncombatants has lost its significance. The fundamental strategy of warfare to-day is to destroy any and every fighting power and materials in possession of the enemy. This is the weakest feature of a nation that has to live on foreign goods and fight with foreign materials. It is an insult to economists, and a disloyalty on the part of economists, to have the national defense policy decided on exclusively by soldiers devoid of economic knowledge, despite the fact that economics play a more important part than military power in modern war.

THE CHINA QUESTION.

Even granting for argument's sake Japan's economic power is strong enough to sustain a war with America and also that supplies from China will adequately meet Japan's demand for munitions of war, it may still be questioned whether it will be possible for the Japanese Army to take certain actions in China, that is, control China by force, as proposed in the new national defense policy. This is a fundamental key to the valuation of that policy. In the event of a war breaking out between America and Japan, China can take one of the three lines, namely:—

1. She can declare war against America in alliance with Japan, in which case it will be in Japan's power freely to make use of the resources and territory and people of China, without using any force. This will be a course only middling wise for China to take, though most advantageous to Japan.

2. She can declare war against Japan in alliance with America, in which case Japan will be in a position to bring armed pressure to bear upon China and requisition her goods and land, though this will entail an immense cost in money and man power, and even then it is extremely doubtful how far the attempt at controlling China's vast territory and population will succeed. On the other hand, there is no doubt whatever that the necessity of operating against China will largely take away from Japan's fighting power what would otherwise be available against America. This course will therefore be middling for Japan and the worst for China.

3. She can declare neutrality, in which case it will be impossible for Japan to get foodstuffs and war materials without making herself a focus of universal hatred such as Germany brought down upon herself by violating the neutrality of Belgium. Neutrality will therefore be the best for China and the worst for Japan.

In these circumstances it is as clear as day that China will declare herself neutral in a case of a war between Japan and America; and it behooves Japan to formulate her national-defense policy and strategical scheme on that assumption. It should also be remembered by the nation that even if China remains neutral it will make a considerable difference to Japan's operations which she will be favorable to, Japan or America, and that it must be regretfully admitted that neither the Government nor the people of China has been or is favorably disposed toward Japan.

THE OTHER POWERS.

As for the attitude that is likely to be assumed by the other powers, the European nations hard hit by the war, and those second-class and lesser powers which have no particular interest in Japan or America, will declare neutrality. The South American nations, which are under America's influence, may, perhaps, take sides with America, but they are not of much consequence either from the economic or the military points of view. Of the other powers, Germany and Russia will be strictly neutral, the former for lack of military force and the latter for reasons of domestic policy, though in view of the present unpleasant relations between Russia and Japan there is no saying but Russia may take action in revenge for Japan's Siberian expedition. France and Italy may possibly show good will to this country, but their good will will be of little practical value. What has the most important bearing upon Japan will then be the attitude of Britain and her colonies. At present, the British colonies of Australia, New Zealand, South Africa, and Canada are all anti-Japanese and pro-American, as was indicated by the happenings at the time of the abrogation of the Anglo-Japanese alliance. Australia, more especially, with its extensive but thinly peopled territory and feeble defense, is sore afraid of Japan's possible attacks. The same is the case with South Africa and Canada, though in a different degree. As for the United Kingdom, it is hard to foresee what its attitude will be, so wary and calculating are the British people. It is clear, however, that they could not welcome Japan's success, which must mean a menace to India. It would seem altogether that Europe would not be sorry to have Japan and America fight and fall together. In the present state of international relations, in short, Japan should be prepared to fight single handedly in the possible event of a war with America, while Britain and her colonies as well as China will maintain pro-American neutrality. A serious disappointment is sure to be experienced if the war should be entered upon in expectation of the impossible support from other powers.

CONCLUSION.

Naval strength having been limited by the Washington agreement, the question of armaments that remains to be considered concerns the army chiefly. The army authorities who had persistently opposed the suggestion of reduction on the grounds that Soviet Russia and the Chinese Army were a menace were compelled by the intense demand of the awakened nation to effect a reduction last year, but it was a very half-hearted and lukewarm reduction. And yet General Yamanashi, the war minister, declared at the last session of the Diet that it was impracticable to reduce another man or another horse. The war establishment of the army is kept secret. From the fact, however, that the peace establishment of one division is about 10,000 (for the total peace establishment is 21 divisions, with 230,000 men) and that the term of service is two years, it is to be gathered that the number of conscripts annually enrolled is about 120,000. And as the active and first reserve services together cover a term of seven years, the men that can be levied in war time from these two sources will number 840,000, who will make up 42 divisions, as it is customary in all countries that the war establishment of a division should be twice its peace establishment. Adding to the number those on the second reserve lists extending over 10 years (after the completion of the first reserve service), the total trained troops that can be called out in time of war will be about 2,000,000, or at least 1,400,000, even allowing for a decrease of 30 per cent by death and otherwise.

THE DEFENSE OF REMOTE REGIONS.

Where is this large army going to be employed in the event of a war with America? According to the new national-defense policy, it is to be employed for guarding "remote regions" (Formosa, Hokkaido, Saghalien, Korea) and taking military action in a certain area on the continent (China). But however foolish the American General Staff may be, they will never form so awkward a plan as to land large forces in remote regions of Japan so long as the Japanese Navy is afloat. When the latter navy is annihilated and the connection with the mainland is cut off, the troops stationed in those regions will only be exposing themselves to danger without serving any useful purpose in the interest of the general situation. Whether the Japanese fleet continues in existence or otherwise, therefore, it will be either unnecessary or meaningless to station a strong force in the remote regions. So to claim that a large army is needed for safeguarding remote regions is simply an argument that is calculated to hoodwink ignorant laymen. In case Japan goes into war with a foreign power, she must, indeed, expect that some trouble will arise in Korea, for this is a sort of evil that a nation ruling over another must be prepared for. But the Koreans are not likely to raise serious disturbances, forbidden, as they are, to even own pistols, so that a large army need not be newly sent out to Korea to suppress them. The principal operation of the army must, then, be military action in China and possibly the attack upon the Philippines. The attitude which China is likely to adopt in the event of a war between America and Japan has already been indicated. If the four hundred provinces of China are to be trampled under foot with the object of exacting goods from that country, an army of 50 or even 60 divisions will not be adequate for the work, even if that could be done without arousing the opposition and interference of the powers, which can hardly be the case.

CAPTURING THE PHILIPPINES.

In any case, what can be got from China will be limited to a quantity of iron that will meet a greater part of Japan's demand for the metal and a small

quantity of cotton, as already explained, so that Japan will be losing (so to speak) ten for gaining one by such action. The intended military action also will thus be either impracticable or meaningless. Where is then the main force of the Japanese Army, comprising 42 divisions, intended to be used? It would be futile to discuss the occupation of California, for it would be impossible to ship the necessary army across the Pacific, to begin with. The attack on the Philippines is perhaps the only way in which the force can be used. Japan will find it necessary to hold the American fleet in check and hold the mastery of the China Sea in order to make sure of Japan's trade routes from India eastward. For this purpose, it will be necessary to attack and take the base of the enemy fleet. But this will be a work which necessitates the joint action of the army and navy. In wodern warfare, however, it is held that it is practically impossible to land a large army at a place which is strongly defended both by land and sea. During the European war, for instance, Germany could not take Verdun even at the cost of 500,000 lives. The Allies sacrificed over 100,000 men and several battleships to their unsuccessful attempt at the occupation of Gallipoli. We do not know whether the Philippines are defended to a greater or less extent than Verdun or Gallipoli, but such arms as aeroplanes, bombs, and poison gas have made much progress since the European War. Eighteen years ago, when nothing was known of aeroplanes and poison gas, it took Japan five weary months and 50,000 lives to take Port Arthur. In order to take the Philippines, therefore, Japan should be prepared to pay a price two or three times or five times as heavy as that exacted for the taking of Port Arthur, with a correspondingly immense mass of war materials.

IS IT WORTH WHILE?

All these things duly weighed it may be doubted whether the general aspect of the supposed war will make it worth while for Japan to undertake the job. This is, however, a question the solution of which depends to what extent the island is defended. If the Japanese headquarters aim at taking the Philippines and if the latter are strongly defended, Japan will certainly require a large army; that is, in order to cover Philippine waters with the blood of her sons and fill in the valleys of the Philippines with their bones!

A GREAT FLAW IN NATIONAL DEFENSE.

So long as Japan maintains an army and navy in self-defense there is nothing to be said against the proposal for supplementing new weapons. In fact, it is rather a matter for wonder why they should not have done so sooner. For it is a patent fact that arms in this country—those of the army more especially—are far inferior to those in possession of occidental nations. Japan can produce neither poison gas nor tanks. Even in the case of machine guns drill is being carried on with wooden guns! But it is in regard to aircraft that Japan lies farthest behind Europe and America. Air navigation in Japan is now practically in the same stage that it reached in Europe before the war. Almost all types of aircraft are indeed collected, some being by purchase, others by imitation, but there are no machines originated here. It is said that even aeroplane motors can not be manufactured here in quite satisfactory order. Considering the immense power which aircraft exercises in modern war, and also the fact that Japan is particularly vulnerable to aerial attacks by reason of the general frailty of buildings here, the great speed of winds through all seasons, her sea-girt situation, etc., the supplementing of the air force is more urgent than that of the army or navy. If the military au-

thorities are really keenly alive to the necessity of the national defense, the air force ought to have been completed even at the expense of putting off the building of some men-of-war or reducing the army divisions in existence.

EASY TO DESTROY TOKYO.

Now that depot ships, aircraft, and bomb dropping are so far advanced, it need not be very difficult to send a hundred aeroplanes from the sea flying over Tokyo. One single powerful bomb dropped from one of them may easily smash to dust even the Marunouchi Building, which is said to be the largest building in the Far East. The hundred aeroplanes may have it in their power to reduce the whole capital to ashes in one night. Should Tokyo, the political center of the country, or Osaka, its commercial center, be burnt down, the nation would no longer have the capacity and courage to prosecute the war, even if the army and navy remained intact. On the presupposition of a war with America there is no room for reduction so far as the navy is concerned, but it is not necessary for the army to have so large a force as at present for operation against America. In fact, Japan may not be able to find the war materials necessary to make effectual use of such a force. It would be another question if the national defense existed merely for the purpose of intimidating foreign powers or backing up diplomacy; but if it is for actual war, a country so deficient in economic strength as this should adopt a defensive scheme that will be most economical and most effective withal. The aerial army should therefore be extended on a large scale, the necessary fund to be met by a radical reduction of the superfluously large army.

KEEPING UP A USELESS ARMY.

In conclusion Captain Mizuno repeats that the imaginary enemy which the authorities have in view in formulating the policy of national defense must be the United States, which has the greatest chance of any foreign power to come to blows with Japan. In the present state of the world Japan should be prepared to fight, if at all, America single-handedly, for no country in the world will cast her lot with Japan. The war, when it comes, must be a drawn one, though the war minister urges the need of a large force of trained soldiers in order to have a short and sharp and successful war. That is a mere pretext against the reduction of the army. The enemy on the other side of the Pacific, 5,000 knots away from us, will not act as the Japanese war minister wishes it to. Hence it is that it is not a question of military force but of economic power whether a war with America is or is not practicable, and that the merchant with his abacus, rather than the soldier with his saber, is the person better qualified to answer the question. The new national-defense policy is entirely sound when it says that in case Japan is blockaded it will be necessary for her to get foodstuffs and war materials from the neighboring countries. The question is how and by what means they are to be obtained. If Japan wants to provide against America afar, she should ally herself with China and Russia nearer home, instead of disgusting China by threats of plunder on the one hand and antagonizing Russia on the other. In short, by neglecting to promote the increase of industrial and economic power on which modern armaments ultimately rest, by omitting to supplement aerial equipments which are most essential to the defense of the Empire, by purposely giving a bad turn to the ideas of soldiers and sailors by improperly allotting allowances for dismissals due to the reduction of the army and navy, and, above all, by advocating "military action in a certain area on the continent"—the most foolish and dangerous course that can be thought of—the military authorities make it transparent either that

they think that there will be no war in the near future or that they have made up their minds that war is impossible. How can they exonerate themselves from the charge that in refusing to reduce the unnecessary armaments nevertheless in the name of national defense they are really bent on protecting their own position and power at the expense of the nation?

NEED OF A NATIONAL DEFENSE COUNCIL.

Nor can the nation confidently acquiesce in a national defense scheme formulated by soldiers alone who know only how to act from a military point of view. The national defense is for the State and not for soldiers. Extremely speaking, it will be enough for soldiers to discharge their functions as fighting engines according to the national defense policy handed to them. It is necessary that a national defense council should be organized of experts of various classes to discuss and decide the whole question from economic, industrial, political, and educational, as well as military points of view. Not that the military should be excluded from the discussions of national defense, but that the matter should not be decided entirely and exclusively by the military. Premier Kato objected in the Diet to the organization of a national defense council on the lines suggested, on the plea that such an organ existed in no country other than the United States. The fact is that in the occidental countries there is no special need of such a thing, inasmuch as the power to decide upon the question of armaments is vested in the legislature, whereas in this country the same power belongs entirely to the Emperor, whose only consultative organ in the matter is the highest military council. This is why it is necessary that a national defense council on a broader basis should be organized in Japan, while there is no such necessity in the occidental countries. Unless the legal system is altered (so as to shift the power to the legislature) or a national defense conference organized, it will be impossible for the nation to fix upon a defensive policy agreeably to conditions in and out of the country.

The following editorial is clipped from the same newspaper in the edition containing the final article:

JAPAN'S DEFENSE.

Some of the criticisms uttered by Captain Mizuno in the article of which the concluding portion is given to-day can not have been very pleasant reading for the military authorities. He accuses them roundly of maintaining a useless force in order to keep their own position and influence. Similar criticisms have often been made by British officers, notably by Sir Percy Scott and the late Lord Fisher. Unfortunately, as Captain Mizuno points out, it is very easy to impose on the public, and the more monstrous are the defensive works proposed, the easier is it to frighten the nation into acquiescence in their construction. Probably in the near future the American-Japanese war scare will be completely forgotten; it seems almost incredible already that people apparently with a reasonable amount of intelligence could have been seriously concerned two or three years ago with the fear that there was to be a war between Japan and America. Both were building warships busily, but what they had to fight about was never explained. Still more completely left to the imagination was the manner in which the war was to be conducted. There were, indeed, some attempts to picture it. General Sato wrote a comic book, "If Japan and America Fight," in which he justifies his nickname "the Japanese Bernhardi" by displaying an incompetence as great as that of the

German Armageddonist in describing the realities of war. Captain Mizuno perhaps overemphasizes the economic pains that Japan would suffer if engaged in war with a strong naval power—not that these pains would not be suffered, but that the war has shown that such inconveniences can be borne for a long time. He also makes rather a bogey of blockade. Britain found it very difficult to blockade Germany, with only the width of the North Sea to patrol from her own bases. What possible blockade could America exercise against Japan, at an enormous distance and with an interminable coast line? There would be a possibility of commerce destruction over a wide area, and leading to nothing except attrition of ships and alarm of owners, but no possibility at all either of blockade or invasion.

War between America and Japan would be more like the war between Spain and America than like the Great War. It could only resolve itself into naval engagements in a fight for island possessions. But the ships on both sides would be very different from those which fought in Manila Bay. They would not undertake engagements so readily. And unless the lessons of the Great War are very misleading, it would not be merely a matter of landing and clearing up the rest when the ships were disposed of. Landing on a hostile coast is the most hazardous of all enterprises nowadays, even when the defense is far inferior to the attack. The enormously increased destructive power of armaments has proved quite ineffective as a means to occupy and take over a hostile country after the good old plan of those that took who had the power. If Japan took the Philippines and held them to ransom, the American administration might breathe a sigh of relief at another burden gone. But it is very unlikely that any such capture would happen.

While landing on a hostile coast is nowadays an operation so dangerous that it would hardly be attempted, the helplessness of an unarmed or badly armed populace in the presence of a hostile force is more complete than ever before. Captain Mizuno seems to exaggerate greatly the number of Japanese troops that it would take to keep China in a properly agreeable mood. The helplessness of disarmed Germany in the presence of a small invading force with tanks, machine guns, and artillery is no more complete than would be that of China any time that Japan chose to land an army on her shores. And Japan can see in advance that China has no means to prevent Japan from landing. Captain Mizuno anticipates great difficulties in getting supplies from China in time of need, but so long as the supplies are paid for China will furnish all that are needed. Captain Mizuno's idea that if Japan and America come to blows Japan would first have to conquer China sounds rather farfetched. The chief point for consideration is that even if Japan suffered a considerable naval reverse she could still maintain intact her communications with China, and an effective blockade would be impossible. But it is very unlikely that she would risk a naval reverse.

There is the somewhat imperfectly known factor of aviation. As Captain Mizuno says, Japan could do very little with her present equipment, either in repelling attack or in carrying destruction abroad. On the other hand, since it is extremely unlikely that an American fleet would risk a descent upon the Japanese coasts, the idea of a large bomb dropping on the Marunouchi Building and other examples of Tokyo architecture need not appall Japanese strategists in advance. The aerial weapon is tremendously destructive, but its range is still very limited. The approach of an American fleet of plane carriers to the shores of Japan is only one degree more imaginable than their successful return. That Japan should in like manner approach the Californian coast or could profitably bombard Manila from the air is equally out of the question.

The chief use of the larger air fleet advocated by Captain Mizuno is that it would render still more reducible the Japanese Navy—already far larger than is necessary to insure uninterrupted communication with the mainland. Japan's strategy, though it once included the maintenance of an army that could overcome the Russian force at five thousand miles from its base, is now absurdly large for any purpose for which it might be employed. Japan never contemplated the invasion of any distant country. She holds China in the hollow of her hand, and can continue to do so with ten per cent of her present strength. With the changes in armaments she is secure from any interference in her continental policy, such as the advice which France, Germany, and Russia gave her to abandon Talienwan. She could, without risk of inviting any more such advice, replace her navy with aeroplanes and disband the greater part of her army.

The only possible anxiety that can arise for Japan's strategists is from a strong Russia or a strong China, neither of which at present exists, and against the existence of which the greatest precautions have been taken. Even if these States recovered their economic and political balance and created large armies, Japan is able to dictate to them regarding the formation of any sort of naval power, and would be sure to do so pretty effectively. She is, in short, in the position, long desired, of being able to propound a sort of oriental Monroe doctrine—a doctrine which should rest on the condition that not only shall the East Asian States enjoy the benefit of Japan's protection but that they should have no other. At present Japan enjoys a more secure position than any country in the world, and a more advantageous one. She is in no danger of attack by any of the great powers and holds the unquestioned hegemony of Eastern Asia. That hegemony does not mean all that it did in days when men were more docile has been seen in the failure of the recent attempts at aggrandizement both in Siberia and China. But so far as regards any possible war, and ignoring all questions of a new spirit among the nations, it may be said that Japan has an army and a navy stronger than necessary and less up to date than they ought to be.

JAPAN.

SASEBO HYDROPLANE STATION.

This station is located on a point of land about 500 yards in width across Sasebo Harbor from the naval station and about 3 miles away.

The buildings consist of administration building and barracks at the eastern end of the station, while at the western end are three hangars, a very small machine shop, a small gasoline repair engine shop, and a small storehouse. All buildings except the hangars are of wood, the hangars being of corrugated iron.

In the hangars at the time of inspection were about 15 seaplanes of various types, a number of them being under repair. Among these seaplanes were about eight biplanes with folding wings made by the Mitsubishi Co. These seem to be the standard operating plane of the station. The three hangars could probably accommodate 30 machines by crowding.

The roadways in the immediate vicinity of the hangars and leading down to the three hauling-out ways were of concrete; other roads were of dirt. Between the hangars near the end of the point and the administration building and barracks at the other end is a rough parade ground of 4 or 5 acres. This might be used by a land machine for landing in a great emergency, but on the date the inspection was made it was very soft from continued rain, and a machine landing there would probably meet with disaster at such a time.

There are four pilots attached to the station, and the commanding officer stated that they were required to remain in the air from 8 to 12 hours per week. There were no signs of any flying being done or any preparations for flying during the visit. The harbor is surrounded by high, precipitous hills, and it must be very difficult to successfully handle a hydroplane in bad weather, particularly those of large size. No F 5 machines were seen, though, according to the papers, two of these machines have recently been assigned to Sasebo.

Most of the repair work for this station is done in the dockyard of the Sasebo station.

There is no room for further expansion on this point.

Located in the midst of the aviation activities is a large storehouse which, the commanding officer stated, belonged to the munition department of the Sasebo station. This probably is the storehouse for bombs, though its location would make it probable that an explosion in this building would wreck the entire station. Also on this point and in the middle of the hydroplane station is located the isolation hospital for the Sasebo naval station.

ARGENTINA.

RECONSTRUCTION OF RIVADAVIA AND MORENO.

1. On 16 June the President sent a message to the Senate requesting the passage of the following bill:

ART. 1. Authorize the executive power to spend up to the sum of 9,500,000 pesos gold for the performance of the necessary repairs on the battleships *Rivadavia* and *Moreno* and the four destroyers of the *Catamarca* class; in the modernization of their ordnance material, fire control, and torpedoes; make the necessary changes in the turbines of the two battleships; adapt both types of ships for the use of fuel oil only; acquire for the above-mentioned ships 75 torpedoes, 14 compressors, 500 depth charges and the necessary apparatus for discharging same, and for the acquisition of 500 defense mines and the corresponding equipment for depositing, laying, and sweeping of same.

ART. 2. The funds, whose expenditure is authorized, will be taken from the general income, being able to make use of the credit, if necessary, and will be

placed at the disposal of the Ministry of Marine in eight quarterly quotas, at the time requested by this department.

ART. 3. The expenses arising from the fulfillment of this law will be charged to the same.

2. On 23 June the Senate passed the bill and it is now awaiting the action of the House of Deputies.

3. The *Moreno* and *Rivadavia* will be sent to the United States for the work authorized, while the destroyers *Catamarca*, *Jujuy*, *Cordoba*, and *La Plata* will be overhauled in the Argentine navy yards. The necessary material for the modernization of the destroyers will be bought abroad.

NETHERLANDS.

STATUS OF NAVY BILL.

The Minister of Finance of the Netherlands recently resigned, due to the attempt of the Government to pass the bill appropriating money for the establishment of naval bases in the East Indies and for the increase of the fleet.

During the past week there has been a tendency on the part of all the leading newspapers, except those which are official organs of the parties of the opposition, to take a much more kindly view of the decision of the Government to push the naval bill through at the earliest moment after Parliament reconvenes on the third Tuesday in September.

The official organs of the "parties of the Left" began by urging a special meeting of the Second Chamber to discuss the so-called "crisis" caused by the resignation of the Minister of Finance, but I am informed that there is no possibility of an extra session at present.

The Government now has a majority in Parliament, and I am informed that they are very confident at the Dutch Navy Department of the passage of the bill.

It is generally believed that British influence has caused the sudden decision to hasten the passage of the bill, and it is a significant fact that Captain Sluijs has been appointed chief of staff just after being relieved of duty as naval attaché in London, while Rear Admiral Gooszen, who is the "father" of the bill, goes to the East Indies. I am told that, being familiar with the bill, he intends making preparations for the development of the naval bases in the Indies, so that work can be begun immediately the bill is passed.

It is believed that the Dutch do not wish to depend upon Great Britain to keep her trade routes open in case of war in the Pacific,

in return for which the latter would demand extra concessions in the Indies oil fields. Practically everyone else ascribes the decision to fear of Japanese aggression and an understanding between the Dutch and British Governments to prevent this.

No definite action will be taken on the bill until after Parliament reconvenes on 18th September, except that the Government hopes by that time to have selected and installed a Minister of Finance who will have a plan ready to provide for the necessary funds without increasing the taxes.

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OFFICE OF NAVAL INTELLIGENCE.
NAVY DEPARTMENT.
Washington, D. C.

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DISTRIBUTION:

In general: Bureaus of the Navy Department; all force commanders; all commanding officers of capital ships, the larger patrols, destroyers, and submarines.

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NUMBER 10—1923—OCTOBER, 1923.

FOR CONVENIENCE IN ROUTING.

Officer.	Initials.	Date received.	Date forwarded.
Captain			
Executive Officer			
First Lieutenant			
Navigation Officer			
Gunnery Officer			
Communication Officer			
Engineer Officer			
Medical Officer			
Supply Officer			
First Division Officer			
Second Division Officer			
Third Division Officer			
Fourth Division Officer			
Fifth Division Officer			
Marine Officer			

The material for the Bulletin is largely derived from service sources and its interest and value are correspondingly dependent upon the number and character of the reports received by the Office of Naval Intelligence from our own officers. In this connection the observations of officers afloat are of great value, particularly if the reports rendered are drawn up in accordance with existing intelligence instructions.

While political and economic information is undoubtedly of much use, the collection of military information should come first in the intelligence work of cruising ships.

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GENERAL EUROPEAN.

MEMORANDUM ON GENERAL AERONAUTICAL MATERIAL SITUATION ABROAD.

September, 1923.

In general, progress in aeronautical design, research, and invention is being made in France, England, and the United States only. Only in these countries are large sums being spent on experimental work under the direction of competent technical and scientific organizations.

Speaking very broadly one is safe in saying that:

(1) England leads in the building of steel airplanes and aeronautical engines, especially of the air-cooled type, and also leads the world in the application of modern methods of mathematical physics in the design of aircraft.

(2) France leads the world in production of standardized aircraft and engines of good but not superior quality. Progress in design appears to be checked on the one hand by the manufacturers, who insist on adherence to old types for quantity production, and on the other hand by the "Section Technique," which adheres to standardized practices for alleged "military" reasons.

(3) In Germany engine and airplane development appears to be effectively stifled by the restrictions of the treaty of Versailles. Only the Zeppelin Co.'s work for the United States Navy on *ZR–3* on reparations account furnishes a brilliant exception.

(4) In Holland, Denmark, and Sweden, research is largely academic and on a small scale.

(5) Czechoslovakia and Spain appear to be customers of France.

(6) Japan is a customer of both France and England and new developments in England, in particular, appear in Japan within the year.

(7) The United States appears to lead the world in water-cooled aircraft engines, metal propellers, seaplane floats, and in airplane construction in wood. Our metal aircraft construction is relatively undeveloped. The use of applied science in design is rapidly approaching that of England and our research work, for originality and importance, is on a par with the English work in the same field.

ENGLAND.

The outstanding naval development in England since the war is the aircraft carrier. There is no doubt that the British have been successful in operating land-type airplanes from the deck of an aircraft carrier. The new problems encountered in adapting aircraft to the carrier are reflected in the increasing divergence between the characteristics of airplanes designed for use on carriers from the usual army types for use on land. The aircraft-carrier types are to be distinguished by:

(*a*) Compactness for stowage and ease for assembling and repair.

(*b*) High mounting of the pilot at the expense of resistance in order to afford a clear view of the deck when landing.

(*c*) Landing speeds some 10 miles per hour slower than corresponding land types to facilitate deck landings. This may mean a sacrifice of some 10 miles at high speed.

(*d*) Abnormal weight allowed to the under carriage by the designer in order to facilitate deck landings under unfavorable conditions. In particular, the travel of the shock-absorbing gear may be double that usually allowed.

The development of the air-cooled engine has been stimulated by the demand for a very light airplane for the carriers, as well as by the demand for a power plant to be less vulnerable to machine-gun bullets. Elimination of the radiator and water-cooling system is considered the greater reduction of vulnerability, and British policy is now stated to be that no planes with water-cooled engines would be sent over the lines except at night. All single-seater and two-seater fighting planes for the 1923 program have air-cooled engines.

Two successful air-cooled engines of about 400 horsepower have been developed, one by the Bristol Co. and one by Armstrong. The latter is now in quantity production for the Air Ministry with negotiations underway with French and Japanese firms.

The Armstrong firm is also manufacturing a steel-framed fighting plane (army type) which appears to be excellent and to be recognized by the Air Ministry as the solution of the metal airplane problem.

Metal construction of airplanes was started in England during the war, but development has been slow. It is understood that this development was pushed after the war more vigorously after realization of the technical difficulties of aircraft operation in Egypt and Mesopotamia. Under unfavorable climatic conditions wooden planes, and especially propellers, rapidly went to pieces. In some cases new planes shipped from England in cases arrived in bad condition, due to warping, swelling, and mildew. The use of both

duralumin (aluminum-copper alloy) and steel were tried and several successful types have been produced, but usually at a cost of three to four times that of wood. Duralumin construction is now discouraged officially because aluminum and copper are imported materials difficult to obtain in time of war. Armstrong's steel construction is based on strip or ribbon steel formed by drawing into shapes. Shapes are riveted up (welding forbidden as uncertain) into a framework which is linen covered. Linen covering is preferred to a thin metal sheet in order to encourage frequent inspection and attention to the interior structure. Armstrong's construction in limited quantity (about 50) is said to be about twice the cost of wooden construction. In lots of several hundred, it might be cheaper than wood.

The use of land-type airplanes from an aircraft carrier over the sea is admitted to be risky, but in time of war the risk will be taken in order to give the planes the maximum air performance. However, in order to carry out peace-time operations and training, the American scheme of having interchangeable seaplane or float gear available has just been adopted.

Spotting for fire control requires at least three men (pilot, spotter, and radio operator, who also mans a machine gun). A spotting plane in the form of an amphibious flying boat of 450 horsepower has been developed. This is an ordinary flying boat fitted with wheels to permit it to land on a carrier. The extra wheel gear probably weighs more than a fourth passenger and makes the big engine necessary. Its speed is low, and the theory is that spotting planes would not be sent out from the carrier until fighting planes had gained command of the air.

In order to throw the maximum number of fighting planes into the air in advance of contact with the enemy fleet, it is realized that the capacity of the aircraft carriers is too small. Consequently it is hoped to fly such fighting planes from the turret tops of battleships and reserve the carriers for the heavier spotting planes and torpedo planes which can not be launched (they think) from battleships.

The American device of a catapult to launch planes from ships has made something of a sensation, and an experimental catapult is now being made.

The British torpedo plane is a conventional high-powered (450 horsepower) land-type airplane carrying the standard torpedo and a pilot. It is considered that the American policy of a torpedo plane on seaplane floats carrying a machine gunner and radio set in addition to the pilot makes so slow a machine that it can not succeed in its attack.

The British consider the large flying boat useful for coast-patrol work operating from a base on shore and are continuing the development of the type, but in a somewhat indifferent manner. The real interest is being shown on types which go with and in the fleet.

The Royal Air Force-Admiralty controversy as to the control of aircraft with the fleet has somewhat impeded development of naval types of aircraft during the past two years, but is in a fair way to be settled by a compromise allowing the Admiralty to have and to control its own flying personnel and to procure its aircraft from the Air Ministry.

British aviation engines are supplied with a special gasoline distilled from Persian crude oil under a specification calling for a certain percentage of "aromatics" to be present as well as a specification of the usual distillation range. This "motor spirit" will permit compression ratios up to 5.5 without knocking. Ordinary gasoline knocks at 5 to 1 compression. It is stated that California gasoline has about half the proportion of aromatics as Persian, but may be fortified with a small amount of benzol to remove knocking tendencies.

British policy in general appears to contemplate spending a large part of available funds and energy on research, experiment, and development work to improve quality. Consequently, the British are not disturbed by the apparent overwhelming air strength of France. It is pointed out that 90 per cent of French aircraft are obsolete and that the French will realize this in a year or two and have to begin all over again. This statement may be somewhat exaggerated, but is based upon good reasoning, I believe.

British experiments with alcohol as engine fuel were successful, but have been dropped as a matter of policy, as alcohol in time of war can only be obtained at the expense of the food supply while benzol will be in abundant supply from the by-product coke ovens. American development of "anti-knock dopes" is not taken seriously apparently.

Airships in England are not used in the Army, Navy, or air Force, but a scheme for a subsidized company to undertake the construction and operation of rigid airships to carry mails between England and Egypt and India has just been approved by the Government. American development of rigid airships is being watched closely.

FRANCE.

Naval activity in France is at a low ebb, and consequently French naval aviation is of slight interest to us. Their naval aircraft appear to show slight improvement over 1918 and are distinctly inferior in design, construction, power plants, and general suitability

for service than corresponding British and American types. In general, the money and brains in France are going into army aviation. The navy gets its planes by requisition from the Air Ministry and is doing practically no independent development. The navy has even been robbed of those officers of its construction corps who have become expert in aeronautical construction to form the technical bureau of the Air Ministry. This "Service Technique de l'Aeronautique" has for its director Chief Constructor Fortant and as subdirector Chief Constructor Sabatier.

The most interesting work in France on naval aircraft is being done by the Italian engineers from the Savoia works, who have joined the Chantier Aero—Maritime de la Seine.

While French naval aviation is not very active, French Army aviation is booming. An immense air force is operating at fields scattered all over France. Manufacturers are building conventional types in quantity and at the same time an astonishing number and variety of new types are being submitted for test by them. These new types seem very rarely to prove successful, and one had the feeling that so long as the French engines are not improved their aircraft development will be checked.

For example, all French fighting planes in service as well as the new types under test this summer have the 300 horsepower Hispano Suisa engine. This engine was built also in the United States and has had considerable use in our Army and Navy. It is now considered by us quite unsatisfactory by comparison with post-war American engines and is definitely obsolete.

The French continue to make small refinements in the engine, but without overcoming the fundamental weakness of the type.

Likewise in the field of large airplanes, the French engine builders have developed no first-class large engine (600 horsepower or more) and airplane builders have brought out types using from 3 to 6 small Hispano engines. These multiengined types are considered only fairly serviceable.

Common gossip in technical circles is to the effect that airplane engine building is in the hands of a "ring" of manufacturers who will not allow their types to be made obsolete by radical changes in type. This gossip on examination seems to be substantiated by inspection of French engines themselves, which are distinctly unprogressive in design as compared with current British and American types.

The situation the French Government is in is realized to some extent by the chief of the Section Technique, and it is said steps are being taken to arrange for the manufacture in France of two

of the latest British engines, one air cooled and one water cooled, and negotiations have been opened up for acquiring the rights to manufacture in France the Navy type Curtiss 400 horsepower engine.

The fundamental cause, in my opinion, of the lack of progress in engine work in France is due to lack of Government engine testing facilities. There is no plant for the complete technical analysis of the performance of an engine such as the British have at Farnboro and such as we have at the Washington Aeronautical Engine Testing Laboratory, Bureau of Standards, and at McCook Field. French builders submit an engine for trials to the Government which gives it a 50-hour test on propeller load. If it can not run 50 hours at full load it is returned to the manufacturer without information as to its defects or weaknesses. The manufacturer will make his own investigations. When an engine runs 50 hours, it is approved regardless of how poor it may be otherwise. There are no facilities for determining heat balance, friction horsepower, carburetor functioning, etc. There is no altitude chamber to test the engine under conditions of reduced temperature and pressure. I was told that such facilities are found necessary and are being installed at Issy-les-Moulineaux.

In the United States, we are no longer prepared to say any engine is satisfactory which runs 50 hours. We expect that much of all.

French aerodynamic work is clever, and in airplane design one sees the results of invention, but little sound design on engineering principles. Consequently, there are many novel constructions seen very few of which prove to be practical. French airplane designers work somewhat in the manner of our yacht designers—by eye and artistic feeling. The result is excellent so long as current practice is followed.

French airplanes are not calculated for strength, but a sample is sand loaded to destruction to determine factors of safety. This practice certainly eliminates mistakes in calculation but can not be considered entirely safe. The sample submitted for test is extra carefully built of selected material in new and first-class condition. After six months service one has no assurance that points etc., have not deteriorated and general weakness developed. The British practice is the same as our own, to require a careful calculation of strength, counting on main structural members only, using conservative allowances for unit stresses. Novel types of construction are sand loaded as a check on the calculations.

GREAT BRITAIN.

ALTERATIONS TO LATER CAPITAL SHIPS.

September, 1923.

The following information in regard to these ships was obtained by a personal inspection.

H. M. S. REPULSE.

At one time the *Repulse* underwent an overhaul period of approximately 18 months, during which time many extensive alterations and repairs were made. The largest items of alterations were:

(1) Fitting of horizontal armor.
(2) Fitting of side armor.
(3) Fitting bulges.
(4) Fitting flash-proof scuttles to all magazines and ammunition hoists.
(5) Rearrangement of stores and messing necessary for the central storekeeping system.

(1) The horizontal armor was stated to have been fitted over (*a*), (*b*), and (*c*) magazine spaces and consisted of 1½ inches additional thickness of armor. From a personal inspection of this armor, it appears that the ship was not generally torn to pieces in order to install this armor, but that the armor was cut in small enough pieces to get it through the hatches to the protective deck. The completed work is very good and the deck does not give the appearance of a repair job. It was stated that this armor was installed at various places during various times, some of it while the ship was in commission and other while she was laid up for general repairs.

(2) Fitting of side armor. The thickness of the side armor is not known.

(3) Bulges. Two sets of bulges have been fitted to the *Repulse*. The first one was removed after it had been in place for some time because it was thought it was too small, and the one now fitted extends from forward to aft and completely covers the magazine spaces.

(4) Flash-proof scuttles have been fitted to all magazines and powder hoists. It is understood that this has also been done to all vessels of the Royal Navy.

(5) The rearrangement of stores was made necessary by the installation of the central storekeeping system and required a great many changes both in the storerooms and in the messing facilities. From an inspection of these spaces it does not appear, however, that the alterations made are as extensive as those contemplated for H. M. S. *Renown*.

The turrets of this vessel are open to the handling room and the gun captain in the turret stated that the guns could be elevated to an elevation of 20°.

On a recent occasion, the *Repulse* parted one of her anchor cables while coming to anchor, due to the spreading of a link on the forecastle, and it was stated that these ships had considerable trouble with their chain cables due to parting when the chain had a nip in it. It was stated that these chains were tested every three years, but very little reliance was placed in the test by the executive officer and navigator of this vessel.

It was noted throughout this ship and other ships of the Royal Navy which have been visited that there are no power hatches, but all heavy hatches leading through the protective deck or other decks are operated by differential purchases.

H. M. S. RENOWN.

Work has been taken in hand at the Portsmouth yard on the *Renown*. The principal items of alteration which will take place during the overhaul of this vessel are:

(1) Fitting of horizontal armor.

(2) Fitting of side armor.

(3) Bulges.

(4) Fitting flash-proof scuttles to all magazines and ammunition hoists.

(5) Rearrangement of stores and messing necessary for the central storekeeping system.

(1) The *Renown* is being made ready for fitting horizontal armor. This armor is to be fitted on the main deck and is an extension of the protective deck already fitted. The new armor will be horizontal and extends entirely across the vessel. Over the magazine spaces the armor is to be 160 pounds. Over engine-room and fireroom spaces the armor is to be 100 pounds. On the fore and aft bulkheads in wake of the engine-room and fireroom spaces, 80 pounds of armor is to be fitted. These figures were taken from working plans posted in the ship. It is a tremendous job to fit this horizontal armor, and the method of getting it in place is as follows:

All athwartship bulkheads have been burned off about 2 feet from the deck and the deck angles removed, so that the ship is to be left clean from bow to stern on the main deck outboard of the fore and aft bulkheads. This work not only necessitates the burning off of the bulkheads, as stated above, but in removing all fittings, tiling, wash-room accessories, and other things that may interfere with the laying of this armor. The templates for this armor are being made at present as the work progresses. It was stated that probably a

few of the side plates, both forward and aft, would be taken out in order to get the armor inside of the ship and from there it would be worked fore or aft into place by man handling. (2) It is understood that the side armor to be fitted will be 8 inches in thickness.

3. The *Renown* will probably be docked the first week in September for bulging, but so far a definite form of the bulge has not been determined on.

4. Flame-proof scuttles will be fitted.

5. The central messing alterations will be the same as will be described for the *Royal Oak.*

The turrets in the *Renown* are exactly the same as those in the *Royal Oak* and are open from the turret to the handling room. The range on the sight bar for the 15-inch guns is marked to 24,000 yards and the angle of elevation on the director indicator in the turret is marked to 20°.

H. M. S. ROYAL OAK.

The bulges of the *Royal Oak* are practically completed and the ship has been taken out of dock. The only part left to complete on the bulges is the fitting of the wooden chock at the top of the bulges. This is about 90 per cent completed.

The channel bar is fastened to the light armor by means of welded studs, and the plating of the bulge is riveted to the opposite flange of the channel. The wood chock, which is of elm or teak, is cut to fit in the channel and overlaps it on the outside about 3 inches. The upper side of the chock is cut to an angle of about 45°. This chock is fastened with tap bolts which are led down into the chock and tapped through the body of the channel. The upper ends of these holes are plugged with a dowel. The part of the bulge above the crown plate and fitted just below the main armor belt is not supposed to be water-tight.

The lower end of the bulge is fastened to the shell by means of a flanged plate and the plate of the bulge is riveted to the long leg of this plate.

The weight of the flange plate is 30 pounds, and the bulge plate adjoining it is 22.5 pounds.

The bulge runs from as far forward as it can be faired in, which is well forward of the magazine spaces, to as far aft as it can be carried without interfering with the outboard propeller stern tube glands, and as this bulge fairs in the space left between it and the side of the vessel, which is too small to have stiffening worked in, is fitted with wood packing for a distance of several feet.

For experimental purposes two sections of one of the bulges on this vessel were electrically welded instead of riveted. These sections

are about 20 feet each, so that the welding took place over about 40 feet and included three of the water-tight bulkheads in the bulges. The bulkheads were welded directly to the shell plating of the bulge and the bounding angle dispensed with. It was stated that on the water tests the welded sections showed up better than any of the riveted sections, but so far it has not been determined whether it is advisable to completely weld the bulges, which will be fitted to the following vessels.

The actual weight worked into the bulges is not definitely known, but is believed to be in the neighborhood of 1,200 tons, and the additional buoyancy due to the bulges brought the ship up in the water about 2 feet.

While the bulges were being fitted it was decided to give the ship a general overhaul and do everything necessary in alterations and repairs that might be required or might be advantageous to put her in first-class condition with all modern improvements.

The largest work in alterations coming under the construction department is as follows:

(1) Fitting bulges.

(2) Centralizing storerooms and putting in new messing accommodations for the central storekeeping system.

(3) Fitting flash-proof scuttles to all magazines and ammunition hoists.

(4) Fitting waterproof leather breeching to gun ports on the main deck.

No. 1 has been covered previously.

No. 2 was a very large job, as previously the men messed in various compartments. The messes were independent and in many cases had different galleys. The new modification consists in centralizing the issue rooms, very much on the cafeteria system, and remodeling the galleys to take care of this arrangement; also fitting the necessary warming pans and central storerooms for mess gear. All storerooms on the ship have been put under one officer instead of each department carrying its separate stores as formerly, and this involved extensive changes in storerooms and storeroom keeping. The whole system is understood to be modeled after that used in the United States Navy.

No. 3. No attempt has been made in the *Royal Oak*, nor, it is understood, in other vessels, to fit flash-proof scuttles from the turret to the handling room, and this space remains open as it did in our old *Missouri* class. The magazines have been entirely closed off from the handling rooms, and in the turret handling rooms one revolving horizontal scuttle is fitted on each side to the magazines, thus giving two scuttles to each handling room. The scuttle is of the parallel

type, operated by a handle in the handling room. The charge of powder is loaded from the magazine side, and as the scuttle revolves to deliver it to the handling room the aperture to the magazine is continually closed. These scuttles are very much like the ones tried out on our ships three or four years ago, but are simpler and not so cumbersome. It was stated that these scuttles have been tested by actual tests to determine their flame proofness and that they were satisfactory. Tests are now being undertaken on vertical revolving scuttles, and two or more experimental ones are to be fitted on the main deck to handle the ammunition at that point for the 6-inch guns. It was stated that all vessels of the battle fleet had been fitted with flame-proof scuttles.

No. 4. Considerable work is being done on the gun shutters and breeching in order to make the secondary battery gun ports on the main deck waterproof. Apparently these guns are fairly wet, because there is a metal breakwater about 18 inches high fitted to the deck inboard to prevent flooding of the main deck.

The rest of the work on this vessel apparently consisted in extensive overhaul and repairs. The vessel was all torn to pieces and it was stated she would not be ready for service until the end of the year. It is understood that the deck armor was worked into this class of vessel before she was finally completed and ready for service, and that also the crowns of the turrets were thickened prior to actual service. There is, however, an additional armor face plate about 2½ inches thick on the face of the turret on each side of the guns, which has been installed since the vessel was commissioned, and this plate is clipped to the other turret armor.

The sight bars to the 15-inch guns in the turrets of this vessel are graduated to 24,000 yards, but it is not known what the director firing is graduated to.

New insulation is being fitted to the 15-inch magazines. This insulation consists of two thicknesses of asbestos, each thickness about 1½ inches. Each thickness is laid up inside with corrugated filling, so that there are air spaces within the insulation.

No sprinkling system is fitted in any magazine, but in the handling room there is a hand-pull quick-acting cock for magazine flooding.

It was noted that the *Queen Elizabeth*, which was at the dockyard, has had the crown plates fitted to her turrets, and also to the face of the turret. It was stated that the thickness of the crown of the turrets of these ships has now been brought to 13 inches.

GREAT BRITAIN.

ANGLO-SWEDISH RAPPROCHEMENT.

August, 1923.

The British Government is engaged in very obvious efforts to effect an Anglo-Swedish rapprochement. The active history of these efforts may be said to date from last year when the Crown Prince of Sweden made a visit to England for the apparent purpose of arranging a marriage with Lady Louise Mountbatten, who was formerly known as Princess Louise of Battenburg and whose family title was given up on account of German associations.

The Crown Prince of Sweden made another visit to England during June of this year, and shortly afterwards the engagement was announced. This engagement was immediately sanctioned by the King of England and the King of Sweden. This was soon followed by a visit of the Swedish squadron to English waters, and the whole proceedings were given great publicity. Some weeks later a dispatch from a newspaper correspondent in Sweden was published to the effect that the marriage would not be legal under Swedish law, as Lady Louise Mountbatten could not be considered of royal birth. After considerable discussion in the papers, it was announced that the above statement was unauthorized and untrue, and that the fact that she was born the Princess Louise of Battenburg was sufficient to conform to the Swedish law.

The visit of the Swedish squadron was returned by a British light cruiser squadron. This was followed by extensive participation on the part of the British Government in the Gothenburg exhibition. A grant of some £8,000 was made to the Association of British Aircraft Constructors to assist in defraying their expenses at this exhibition, and, as a result, the British participated in the aeronautic exhibition to a much greater extent than any other nation, despite the very obvious fact that the field offered little, if any, commercial opportunities to British manufacturers.

The British Secretary of State for Air flew to Gothenburg and remained for one week. A division of F–5 seaplanes in command of an air commodore later flew to Gothenburg, and it may be said that the British occupied the center of the stage during the entire three weeks of the aeronautic part of the exhibition. British officials were also given special grants of considerable sums for entertaining purposes while in Sweden. The officials of the Swedish Government in Gothenburg were apparently under instructions to do everything possible for the British, and this was carried out

to such an extent that official representatives from other countries received scant attention.

Strong pro-British sentiment was expressed on every hand.

GREAT BRITAIN.

ANTI-GAS MEASURES ABOARD SHIPS.

September, 1923.

In a recent inspection of capital ships undergoing repairs at the dock yard at Portsmouth, it was noted that racks were fitted throughout these vessels marked "gas masks." On inquiry of the officer who showed informant around, it was stated that no other protection against gas had been fitted in any battleships which had undergone extensive overhaul at the Portsmouth yard other than supplying gas masks and fitting all interior communication voice tubing with diaphragms. This information checks with information previously gathered.

GREAT BRITAIN.

BLACKBURN AIRPLANE PLANT.

September, 1923.

An inspection of the plant of the Blackburn Aeroplane Co., of Brough, was recently made. This plant is located on the north bank of the Humber, 10 miles west of Hull. It was first established in 1913, was taken over by the Government in 1916 and considerably enlarged, and was returned to the Blackburn Co. after the conclusion of the war.

The building equipment consists of three large hangars, each 300 feet by 300 feet, an erecting shop approximately 100 by 300 feet, with small machine shops and metal working and woodworking shops. There are in addition about 20 other buildings, such as former officers' quarters and barracks huts for former enlisted men. Two concrete runways extend into the river and in addition there is a very good landing field of ample size.

The plant is used for the assembly of planes, the component parts of which are constructed in the main plant of the Blackburn Co., located at Leeds, which is about 40 miles west of Brough. The plant is also used for experimental construction. Approximately 150 men are employed at Brough and 400 at Leeds.

The principal work being done at the present time is the assembly of Blackburn "Dart" torpedo planes. There were 14 of these planes on the floor in various stages of completion. Four "Blackburn" fleet spotters were also observed. This plane is known in the service as the Blackburn "Bull."

The wreck of apparently a new Blackburn "Blackburn" was observed in one of the hangars, and upon inquiry it was learned that this plane nosed over while taxying to take off. The general appearance of the plane leads one to believe that it is susceptible to such an accident, and one of the officials of the company stated that some service pilots were rather reluctant to fly this type on account of that fact and the further fact that the position of the pilot on top of the nose is a very bad one in case of such an accident.

Two experimental planes called the Blackburn "Cubaroo" were under construction. Several rumors in regard to this plane had been received, but unfortunately construction was not sufficiently far advanced to ascertain many details, and the manufacturers were rather reluctant to discuss the type. It is a tractor biplane equipped with one Napier "Cub" engine and designed to carry three torpedoes. The span is 90 feet and the chord is 12 feet 6 inches. It was difficult to tell from the "mock-up" just what the crew was intended to be, and the manufacturers stated that they frankly did not know, but believed it would be three persons.

The pilot's position is on top of the nose, similar to that in the "Bull." Abaft and below the pilot is a large room which is apparently to have two openings through the bottom, one for a machine gun and one for a torpedo director. Abaft and above this room is a gunner's cockpit. This cockpit is connected by ladders to the room and it would appear that the gunner operates both the upper and lower guns. The fuselage is being constructed of steel, circular tubes being used in most cases. Type of construction, especially the fittings, appears very heavy and expensive, the large fittings being turned down from solid blocks. The forward part of the fuselage from the engine to abaft the gunner's cockpit is rectangular in form, and the part abaft this is in the form of a rather narrow triangle, in fact so narrow that it gave the appearance of having a considerable amount of flexibility, and it is believed that trouble will be experienced on account of lack of stiffness. The wings are of the ordinary wood and fabric type.

It was stated that a speed of approximately 110 miles per hour was expected, and that it was hoped to have the first of the two experimental planes completed within three months.

The Blackburn entry for the Schneider cup race was about two-thirds completed. It is a biplane flying boat with a 450 horse-

power Napier engine mounted as a tractor above the top plane. The hull was built several years ago for war purposes but was never used. It is very similar to the hull of the Super-Marine entry. The hull proper is elliptical in shape with the tail curving up and fitted with a false bottom to take the step. An additional step is fitted in a position relatively similar to that of the second step on an F-5. The wings are of wood and fabric. The engine is on top of the upper wing and is very prettily cowled in. Two radiators are used and these are fitted in recesses on the under side of the upper wing on each side of the center line. The radiators are of tubular construction. Details of the plane are as follows:

Span, 26 feet 4½ inches; gap, 3 feet 5 inches; chord, upper wing, 5 feet 6 inches; chord, lower wing, 3 feet 6 inches; surface, upper wing, 130 square feet; surface, lower wing, 74 square feet; height, 10 feet 6 inches; weight, loaded, 2,600 pounds; diameter propeller, 9 feet 6 inches.

The wing floats are extremely large and the designer stated that this was necessary on account of the high position of the engine, which is probably true. The general appearance of the plane, as it now stands, is not impressive for several reasons. The hull appears too long for the span of the plane, the engine appears too high, the forward end of the hull too narrow to shed water, and the arrangement of wires, fittings, etc., indicate a lack of appreciation of the necessity of stream lining. This company has never built fast planes and apparently has not profited by the experience of others.

It is very doubtful if the plane will make more than 150 miles an hour, although the designer seems to hope for something around 175 to 180 miles.

GREAT BRITAIN.

DISTRIBUTION OF NAVAL PERSONNEL.

1 October, 1923.

On August 30, 1923, in reply to one item of a request for information relative to personnel, the Admiralty supplied the tabular statement as to distribution of personnel among seagoing forces and shore complements with the following letter of transmittal:

> The attached statements show the requirements and distribution of the seagoing forces and shore complements, as at October 1, 1923, asked for at "F" in your letter of July 23, 1923.
>
> The numbers shown are on a peace basis, but in war many of the men included in "Shore complements" embark in seagoing ships, although the total active service remains the same.

The marines are shown separately, as requested, but considerable numbers are embarked in seagoing ships.

In these statements officers are included, although I notice that the information you requested was confined to enlisted men. I hope, however, that the statements in this form will meet your requirements, as I understand considerable labor would be involved in separating the numbers of officers from the various figures given.

The Admiralty have been requested to furnish the complement of the various type vessels so as to indicate the number of naval officers and naval ratings, and Royal Marine officers and ratings separately.

During a recent conversation at the Admiralty, information was obtained that the Admiralty had heretofore declined to give separate numbers of officers and men on board their ships.

It is to be noted that on October 1, 1923, at least 1 battleship and 1 battle cruiser, of the 18 battleships and 4 battle cruisers, will not be in commission, and 2 battleships have only three-fifths complement.

SEAGOING FORCES.

	Great Britain.[1]		United States.	
	Number of ships.	Personnel (excluding Royal Marines.)	Number of ships.	Personnel.
Battleships	18	14,471	18	21,332
Battle cruisers	4	3,657	.....	.....
Cruisers	2	527	5	3,357
Light cruisers, first line	42	13,884	3	1,257
Light cruisers, second line			5	1,452
Aircraft carriers	6	2,731	1	342
Mine layers	1	210	2	612
Destroyers	193	11,336	103	10,506
Light mine layers	2	51	6	594
Submarines, first line	65	2,122	84	2,618
Fleet submarines, first line			.....	.....
Patrol vessels, gunboats	(2)	3,259	9	784
Patrol vessels, converted yachts	46		6	544
Auxiliaries, destroyer tenders	8	1,661	6	2,759
Auxiliaries, submarine tenders	9	1,791	7	1,885
Auxiliaries, aircraft tenders	(3)	.....	1	286
Auxiliaries, repair ships' tenders	1	338	2	864
Auxiliaries, store ships	(3)	.....	3	645
Auxiliaries, colliers	(3)	.....	3	495
Auxiliaries, oilers	(3)	.....	9	95
Auxiliaries, ammunition ships	(3)	.....	2	354
Auxiliaries, cargo ships	(3)	.....	7	622
Auxiliaries, transports	(3)	.....	3	833
Auxiliaries, hospital ships	1	36	2	716
Auxiliaries, fleet tugs	5	100	7	294
Auxiliaries, mine sweepers	59	1,210	19	909
Auxiliaries, miscellaneous	.....	.....	6	675
Fish Commission vessels	11	408	2	125
Flag complement	.....	838	.....	1,111
Fleet aviation	.....	.....	.....	1,100
Surveying ships	8	861	.....	.....
Total seagoing forces	.....	[4] 59,491	.....	58,016
Total shore (from next page)	.....	[4] 29,065	.....	27,984
Royal marines	.....	[4] 9,944	.....	.....
Total, vote A	.....	[4] 98,500	.....	.....

[1] Requirements and distribution of personnel as at October 1, 1923.
[2] Includes sloops, P. boats, and China River gunboats.
[3] No naval personnel.
[4] These numbers include officers R. N.

SHORE COMPLEMENTS.

	Great Britain (excluding Royal Marines).[1]	United States Army.
Naval prisons (operating force)	[2] 34	23
Shore destroyer base	513	.....
Shore based submarine tenders	549	2,003
Hospitals (operating force)	678	1,397
Receiving ships and barracks	[3] 2,231	949
Navy yards and stations	[4] [5] 261	1,921
Communications	[6] 534	1,374
Ammunition depots and torpedo stations	[5] 47	672
Shore activities craft (district vessels)	[7] 831	954
Recruiting	50	700
Aviation	.....	2,070
Training stations (operating force)	[8] 931	950
Trade schools (operating force)	[9] 2,947	273
Training stations (recruits)	[10] 5,100	5,482
Trade schools (under instruction)	[11] 4,980	2,000
Miscellaneous	1,029	1,152
Patients in hospitals	2,500	2,064
Prisoners in prisons	100	500
General detail	[12] 2,550	2,000
In transit	3,200	1,500
Total shore	[13] 29,065	27,984

[1] Requirements and distribution of personnel as at Oct. 1, 1923.
[2] Detention quarter staffs.
[3] R. N. barracks, Portsmouth, Devonport, Chatham, and Cormorant, Egmont, Tamar, Flora, and Malabar depots personnel.
[4] Dock yard, chart depots, etc.
[5] Personnel of dock yards and armament depots, mostly civilians.
[6] Horsea and overseas W/T stations, and C. G. W/T.
[7] Royal and Admiralty yachts, target ship (*Agamemnon*), motor launches, trawlers, whalers, and miscellaneous harbor craft.
[8] Boys training establishments and R. N. V. R. instructors.
[9] Gunnery, torpedo, signal, P. R. T., etc., schools, mechanical training, Dartmouth and Keyham Colleges, etc.
[10] Boys training and recruits training.
[11] Other officers and men under instruction.
[12] Leave (including foreign service and drafting leave), navigating and trial parties, men within 3 months of completing engagements, etc.
[13] These numbers include officers, R. N.

GREAT BRITAIN.

EXPERIMENTS ON H. M. S. MONARCH.

September, 1923.

During a recent visit to the dockyard at Portsmouth it was noted that the *Monarch*, which is on the disposal list, was in the floating dry dock for repairs. Information was obtained from the constructor who showed visitors around the yard that the *Monarch* was being used for an experimental ship, and that the experiments consist in exploding bombs on her deck and in various compartments in order to see their effect on deck plating and deck armor. The constructor stated that no one was allowed on board the *Monarch*, not even workmen, without a special pass from the commander in chief, and that the experiments held on her were secret, consequently she could not be visited.

GREAT BRITAIN.

NEW AIRCRAFT CARRIERS DESIGNATED.

September, 1923.

The Admiralty have decided to convert two 18,600-ton cruisers, *Courageous* and *Glorious*, into aircraft carriers, but the work will not be undertaken during the present fiscal year, which ends March 31, 1924.

GREAT BRITAIN.

NOTES ON INSPECTION OF HAWKER ENGINEERING CO.

August, 1923.

The plant of the Hawker Engineering Co. was inspected in August, 1923. This plant was formerly the Sopwith Aviation Works, and is again since the death of Mr. Hawker under the management of Mr. T. O. M. Sopwith.

The plant employs an average of about 300 men, and is engaged principally in reconditioning airplanes for the Air Ministry. At the time of the inspection there were approximately 50 Sopwith "Snipes" and 12 to 15 D. H. 9s in the shop being reconditioned.

There was under construction an experimental type of what was said to be a torpedo plane equipped with Napier engines. The construction of this plane had not progressed sufficiently far to permit the formation of any idea as to its general design other than that it was a land plane with two seats, the gunner being behind the pilot.

The so-called Sopwith-Hawker racing plane which competed in the aerial derby was on the floor undergoing slight modifications, including the installation of twin floats, in preparation for competition in the Schneider seaplane cup race. This plane is a small, single-seater biplane equipped with Bristol "Jupiter" engine. It was stated that through an increase in compression and a change in carburation the engine had been stepped up to 465 horsepower, and the opinion seemed to prevail that the plane would make in the neighborhood of 175 miles an hour. As its speed as a seaplane in the aerial derby was about 170 miles an hour, it does not appear likely that it will be able to make 175 miles when equipped with twin floats in spite of the fact that it will have additional horsepower.

There had just been completed a single-seater fighter known as the Sopwith "Woodcock." This plane unfortunately had been shipped to Martlesham Heath the day before. It is understood to be very

similar to the "Snipe" except that it is equipped with either a "Jaguar" or "Jupiter" engine, the mountings being made to take either of these two engines.

GREAT BRITAIN.

OBSERVATIONS REGARDING GREENOCK AND GIBRALTAR.

July, 1923.

There is practically no work underway in the shipyards along the Clyde; a few hulls of small tonnage remain on the stocks but with no work progressing. There is no smoke coming from the mass of chimneys in the shipyards, and a state of general unemployment exists among shipyard workers at Greenock, Glasgow, and Dunbarton and near-by Clyde yards. Government doles are still being paid, and there is a very ugly feeling among a large part of these men, especially among the unskilled laborers, that is open in its expression. Among this element, which is rather low and sodden, but numerous, there is considerable unrest and bolshevistic talk of revolution, but they have neither the backbone nor the leaders to make an open collective display of their attitude. This condition of unemployment is having a serious social effect in the locality. There were many inquiries as to conditions and possibilities of employment in the United States and the possibility of being allowed to enter this country. Skilled mechanics would make desirable additions, but the lower orders should be rigorously excluded.

In conversation with some British naval officers while at Greenock and at Gibraltar, I distinctly gathered that it was their hope and opinion that the full power of Great Britain on the sea as limited by the Washington conference would be maintained, and that they believed that their Government would not only maintain that standard, but that it was necessary to build up those branches of their service not restricted by the conference to as full an extent as the Government could provide funds to accomplish. This, as expressed, by reason of their far-flung empire and its diversified interests. There was some doubt expressed, however, as to the ability of the Government, in view of the present high taxation, to find the funds required at the present time. There seemed to be no idea entertained whatever but that Great Britain would maintain her strength on the sea to the limit the conference permitted, and where not limited by the treaty that she would be only restrained in meeting what she considered her naval requirements by consideration of funds required

for the purpose. There was expressed an interest in our recent light crusier type of the *Richmond* class, and more particularly as to the 10 light cruisers of about 10,000 tons which they understood would be included in our coming naval budget. I did not find these officers at all cast down or apprehensive as to the future of the British Navy. They only berated what they termed the very foolish law retiring a large number of their most experienced officers at a time termed economy to very shortsighted politicians, lacking in experience, knowledge, and a statesmanlike understanding of things as they are.

GREAT BRITAIN.

REPORT ON INTERNATIONAL AIR CONGRESS WITH PARTICULAR REFERENCE TO THE PSYCHOLOGY AND PROPAGANDA OF THE ROYAL AIR FORCE.

28 August, 1923.

This congress, held during the week of June 30, 1923, was attended by representatives from 22 countries and there were between four and five hundred delegates present. The congress may be defined as a technical meeting of the minds of those interested in aeronautics throughout the world, the object being to advance not only the science of aviation but also the art of aviation from both a military and commercial point of view.

It was expected that Doctor Ames, of the National Advisory Committee for Aeronautics; Professor Warner, the head of the department of aeronautics at the Massachusetts Institute of Technology; and Mr. Howard Coffin, the president of the National Aeronautic Association, would be present to represent the United States. However, none of these gentlemen was present, and I automatically became the senior representative of the United States in attendance at the meeting. Mr. J. J. Ide, European representative of the National Advisory Committee for Aeronautics, was in attendance, and Mr. Kennedy, reported to be a former second lieutenant in the Army Air Service, attended the meetings. The naval air attaché from the American embassy, London, was also in attendance at the congress. Without apologizing for the American delegates, I very sincerely deprecate the fact that the United States was not better represented at this important conference. It is of interest to compare the American representation at the International Air Congress with the American representation at the International Navigation Congress (rivers and harbors) held the following week in London. Navigation is a relatively old subject and certainly there was not very much brought

out in that congress which was either new or novel. On the other hand, there was a great deal brought out in the International Air Congress which is of extreme importance in the development of both military and civil aviation. It is, therefore, difficult to understand why the United States should take so little interest in the air congress, and yet apparently take such a vital interest in the navigation congress. It certainly gives one the impression that we were not awake to the possibilities of aviation.

The British, as is their custom in handling affairs of this kind, put on as much show and side as possible. Having spent several years in Great Britain, I do not believe that I am unduly impressed with this British habit of show and side, but at the same time it goes a long way with a great many people and was certainly so well done in this case as to produce the desired effect of not only impressing the delegates but also of covering any deficiencies that there might have been in carrying out the conference plans.

The congress was opened by the Prince of Wales, who delivered a brief and appropriate address, which in turn was followed by a carefully prepared speech by the Duke of Sutherland, undersecretary of state for air, and chairman of the main committee. This was followed by presentation of papers in four different lecture halls of the Institution of Civil Engineers, St. James Park, London. About 50 papers in all were presented to the congress during the course of the week, during which time an opportunity was presented for the delegates to visit some of the Government and private plants engaged in aeronautical work.

The social side of the air congress was in no way overlooked, the high spots of which were a dinner at Manor House, a reception by the Lord Manor, a reception by the Duke of York, a dinner and reception by the Duke of Sutherland, a luncheon in the House of Parliament by Sir Harry Brittain, a dinner at Claridges by Lord Invernairn, a garden party by Sir Samuel Hoare, secretary of state for air, and Lady Maude Hoare, concluding with a formal banquet on the evening of the last day of the congress with the Duke of Sutherland, undersecretary of state for air, in the chair.

No attempt will be made to cover the technical side of the congress in this report, as copies of the papers were forwarded by the naval attaché, London, and additional copies were forwarded by me, together with such copies as I brought with me on my return. It is only necessary to state that of the 50 papers presented there were at least 10 of very great value and importance to naval aviation.

Probably the most spectacular part of the congress was the Royal Air Force aerial pageant held at Hendon on Saturday, June 30. This pageant was witnessed by at least 300,000 people, and some

estimates indicate that 500,000 saw the greater part of it. The program put on was splendidly and cleverly done and reflected credit on all concerned. It was evident that the program had been carefully planned, thoroughly drilled, and well organized. The most important feature of the show was the fact that no casualty of any kind occurred, which indicates that very careful consideration had been given to this point, with the main object in view of impressing not only the foreign delegates to the congress but the British public with the ability and efficiency of the Royal Air Force.

Throughout the meetings of the congress, particularly the nontechnical meetings, it was apparent that every effort had been made to have present important people from the British Empire. Not only were the high-ranking officers of the Royal Air Force present, together with the cabinet representatives of the air force, but also there were present other cabinet members, members of the royal family, and representatives from the most important commercial concerns in the British Isles. These important personages were present at so many of the functions, both official and semiofficial, that I am under the impression that their being present was all part of a well laid out and carefully executed scheme of indoctrinating the people of the British Empire with the very vital importance of aviation—primarily as a matter of home defense, and secondarily as a matter of great commercial interest.

It is well known by those who follow matters relative to aeronautics that the British have been very much interested in the development of French aviation, both military and civil. It is also recognized that French development has been used as the main motive of propaganda throughout the British Empire to educate the public in the belief that the British Empire was inadequately protected and that it was a matter of safety of life and home that better protection should be afforded Great Britain in the matter of aerial defense. This has not only been put across as newspaper propaganda for the past year, but it has also been thoroughly brought home to the people in their homes and clubs, and in the Houses of Parliament. It might be stated that the climax was reached when Lord Birkenhead made a series of speeches during the spring and early summer in the House of Lords, as well as at various public functions throughout the British Isles. The last of these speeches is a classic in itself and was specially marked up and forwarded by the naval attaché, London, for the information of the Navy Department. The conclusion to be drawn from this propaganda is the fact that Great Britain believes or pretends to believe that her most vital arm of home defense is an adequate air force.

The psychology of the situation is most interesting and the methods followed in putting out propaganda to arrive at a concrete result are worthy of study and emulation. The proof of the pudding is that during the week in which the International Air Congress was held in London the Government, through the Premier, announced to Parliament and the people that it proposed to increase the Royal Air Force 50 per cent. In the Navy we state that "it is only the shots that hit that count," which means that it is only the result that counts. The foregoing methods, with the result obtained, indicate that psychology, propaganda, and diplomacy were combined in a very scientific manner by the British to produce a desired result, which was successfully accomplished in a comparatively brief period of time. Practically the only opposition to this carefully worked out plan came from the Labor Party in the House of Commons, and this opposition was more perfunctory than real. Attention is particularly and specifically invited to the fact that this increase in the Royal Air Force involves an expenditure which will average something in excess of $15,000,000 per annum and probably represents a commitment of the Government to the expenditure of $125,000,000 for the next five years for the Royal Air Force. This is in addition to the average normal yearly expenditure for the Royal Air Force, which is already a very munificent and liberal sum. Attention is further invited to a comparison of these authorized expenditures by Great Britain with the very meager allotment given to United States naval aviation; or, if it is desired to carry the comparison further, the combined naval aviation appropriation and the Army Air Service appropriation are extremely small when placed alongside of the expenditures of Great Britain for its Royal Air Force. It is further necessary to consider the Government expenditures in Great Britain in the way of subsidies for commercial aviation; and as there is nothing in this country on which to base a comparison (our commercial aviation receiving practically nothing from the Government), the contrast is still more enlightening.

The Premier, in announcing this increase of 50 per cent in the aerial strength of Great Britain, very adroitly coupled with this announcement the willingness of Great Britain to enter into a conference for the limitation of air armaments. If it were not so serious, it would be amusing to have your rival increase his military assests 50 per cent and then propose to you that, after this is done (you in the meantime doing nothing), you enter into a conference with him to limit by international agreement your armament. In the slang term of the poker player, Great Britain is certainly "sitting pretty" with regard to a question of this kind.

After the announcement referred to above, advantage was taken of every opportunity to attempt to bring out just what was behind this proposed limitation of air armaments. Direct questions were asked of the secretary of state for air, the undersecretary of state for air, a former undersecrtary of state for air, the director of civil aviation, the chief of the Royal Air Force, and a number of lesser dignitaries in the Royal Air Force. The net conclusion from these fragmentary conversations is to the effect that this announcement with regard to another conference to limit air armaments was nothing more or less than a palliative for the British public, particularly the taxpayer and the pacifist.

One of the most interesting sidelights on all of the foregoing came as the result of a number of discussions with individual members of the Royal Air Force, when opportunity afforded to discuss with them in private their actual estimate of the situation with regard to French aviation. These private and semiconfidential discussions brought out the fact that the lower ranks of the Royal Air Force have no real fear of French aviation, either military or civil or both. They are ready to admit that French designers and French engineers are capable of turning out reasonably satisfactory aviation products. They are also willing to admit that French pilots are fairly capable and efficient. They are, however, practically unanimous in their opinion that French ground work—which covers maintenance, upkeep, overhaul, and general ability to maintain a capable air service—is quite inefficient. As a general proposition, the Royal Air Force has about the same opinion of the French military air service as the British submarine service had of the French submarine service during the war. This opinion may or may not be justified, but it nevertheless obtains with the lower ranks of the Royal Air Force and probably obtains with the higher ranks, who are, however, too diplomatic to express their fixed opinions on a subject of this kind at the present time, due consideration being given to the fact that the higher ranks, the politician, and some of the largest captains of industry in Great Britain are engaged in carrying out a program of aerial development and aerial defense, which culminated in the Premier's announcement with regard to the 50 per cent increase in the Royal Air Force.

Subsequent to the foregoing the Government has also given its approval and sanction to a so-called "modified Burney scheme," covering the joint military and civil development of lighter than air. The details of this announcement have been published in the British press and furnished to the department by the naval attaché, London. The outstanding feature is that the British are going ahead with the construction of a 5,000,000 cubic feet airship and have authorized a

subsidy divided into three parts, the first covering London-Egypt flights, the second a 100-hour flight from London to India, and the third covering weekly trips for a period of six months from London to India. This Burney scheme has the backing of Vickers Co. (Ltd.) and the Shell Oil Co. Whether this lighter-than-air scheme is carried out as far as is indicated is not of so much importance at the present time as the fact that aviation schemes can get and do get the backing of the most important and influential commercial concerns in Great Britain. In this connection it is of interest to note that aviation (heavier than air) has the backing of such firms as Vickers Co. (Ltd.), Armstrong Whitworth Co. (Ltd.), Beardmore & Co. (Ltd.), Napier & Co. (Ltd.), Rolls-Royce Co. (Ltd.), not to mention a score of lesser concerns who are, however, vitally interested in both commercial and military aviation and are in a financial position to back their interests. Furthermore, none of these concerns is dependent upon military aviation alone to bear the brunt of maintenance of their respective plants. They are sufficiently strong in every way, due to their other commercial activities, to carry on, no matter what orders from the Air Ministry they may or may not receive.

In following the activities of the International Air Congress and in observing the psychological, political, and diplomatic activities of those directly and indirectly concerned with aeronautics in Great Britain one is impressed by the types of men outside of the Air Ministry, as well as the types of men inside the Air Ministry, who are devoting considerable time, energy, and money to the development of British aviation. Aviation has some very strong and able friends in both Houses of Parliament. Some of these men are strong by virtue of belief, while others are strong by virtue of their own financial interests. Independent of the source of their strength, they are working along parallel lines for the same ultimate results. One is also impressed by the character of the technical men in civil life who cooperate not only with the Air Ministry, but also with those interested in commercial aviation. A number of the ablest men in the national physical laboratory are most vitally interested in the technical side of aviation, and no stone is left unturned to carry out and develop any ideas which give promise of improvement over existing designs. There are a number of consulting engineers whose technical knowledge of aviation, both heavier than air and lighter than air, is probably equal to, if not superior to, that found in other countries at the present time.

The amalgamation of all this ability working for a definite conclusion combines a force which is bound to result in success, and it behooves us to take a number of leaves out of this aviation book of the British.

GREAT BRITAIN.

ROYAL NAVAL COLLEGE, DARTMOUTH.

August, 1923.

The Royal Naval College is situated on the south coast of England, 200 miles southwest of London, on the River Dart.

The present shore establishment, practically under one roof, succeeded H. M. S. *Britannia* in 1905. Since the closing of the naval college at Osborne, Isle of Wight, the naval college, Dartmouth, provides for the original entry in the Royal Navy of the naval cadets who are to provide the future commissioned line personnel of the Royal Navy; the only exceptions are the "special entry" naval cadets, not exceeding 15, educated elsewhere; also a certain number of officers are commissioned after advancement to mates from enlisted ratings.

The Dartmouth Naval College has a capacity for 550 cadets. At present there are 475 cadets, but it is expected that very shortly the number will be increased to full capacity, as that number of entries is necessary to take care of prospective wastage of commissioned line personnel, in accordance with present plans of promotion and retirement.

The main building has the classrooms, dormitories, mess rooms, gymnasium, and "gun rooms," all conveniently arranged. The gun rooms serve as the living and study rooms, one being assigned to the cadets of each "term"; they are attractively and comfortably arranged, and evidently play an important part in the lives of the cadets. These gun rooms are named after 12 of the most successful British admirals, and the naval cadets of the term are known by the name of that admiral, such as the "Duncan term," "Nelson term," "Hood term," etc.

The other important part of the shore equipment is the engineering department in a separate building on the water front at Sandquay.

Equipment afloat consists of the destroyer *Sturgeon*, in commission, and a very large number of small craft—sloops, cutters, skiffs, and gigs, and also numerous steam launches, in which training is carried on. H. M. S. *Thunderer*, naval cadets' training ship, is not a part of the equipment of the Royal Naval College, Dartmouth, being utilized for the continuing of the training of cadets only after they have completed the course at Dartmouth.

The personnel of the naval college, Dartmouth, consists of:

Officers	27
Masters (instructors)	39
Cadets	475
Active service ratings	85

Civilian employees 282
H. M. S. *Sturgeon:*
Officers 3
Ratings 44

It is to be noted that applications for nomination for naval cadetships are made to the First Lord of the Admiralty and handled by his assistant private secretary. Evidently much care is exercised in selection of the naval cadets. The number of applicants at present is about double the number appointed. The wastage during their training, both afloat and ashore, is very small—only about 2 per cent. The restriction of entry to ages between 13 years 5 months and 13 years 9 months has a marked effect upon the homogeneity of the various terms, and particularly upon those finishing the course.

The "term" is the principal unit in cadet organization. Three or four of the terms are grouped into divisions, and, on the other hand, the terms are subdivided into classes, so that the term of 50 (maximum number) is divided into classes from 12 to 18, depending upon the actual number in the term. These classes in each term have an important place in the instruction, as it groups together the cadets of the same degree of proficiency in their prospective studies; and this proficiency may result in their gaining three months' advantage in seniority upon being commissioned.

It will be noted that the professional instruction is limited to seamanship, engineering, and navigation, which is conducted by and under the supervision of naval officers and naval ratings, who also supervise the physical training. The rest of the education is carried on by schoolmasters, of whom there are 39.

It is to be noted that the course contains no training in infantry or the school of the soldier. The development of the officerlike qualities is effected in another way, which appears to be the most important single characteristic of the training at Dartmouth. To each term of cadets there is assigned a term lieutenant, or lieutenant-commander, who is directly responsible for not only the discipline of the term to which he is assigned, but for the individual development of the cadets belonging to that term. The assignment of these officers to a term of cadets is permanent for their two years' tour of duty at Dartmouth. The term lieutenant has the assistance of a chief petty officer. Both the lieutenants and chief petty officers are naturally very carefully selected for these duties. The term lieutenant has his quarters between the gun room and dormitory of the term over which he has supervision, and is otherwise regularly in close touch with the life of the cadets at all times. Not only in matters of instruction, but in the correction of minor delinquencies,

the term lieutenant is given very wide latitude, though legally disciplinary measures are taken to the commander of the college, corresponding to our commandant of midshipmen, and the more serious cases to the captain commanding the naval college.

There was every evidence that a very high state of discipline prevailed throughout the entire organization, and largely through inculcation of fine spirit, rather than by punishment, or fear of punishment. The report book showed that these delinquencies were of a very trivial nature and comparatively few. The commander of the Royal College informed me that there were seldom, if ever, any serious infractions of discipline, and laid much stress upon the effect of the cadets being given to understand from the beginning that they were expected to conduct themselves like officers, and were so treated. It is to be noted, however, that the close supervision by the term lieutenant enable any serious breach of discipline to be readily noted, and as it is distinctly understood that the period of training, including the time spent in the training ship, is a time of probation, the parent or guardian of a cadet is obliged to withdraw him immediately upon receipt of an official request for his withdrawal.

Keen naval spirit is further developed and stimulated by British naval officers other than those on duty at Dartmouth; on the day of my visit, an officers' team largely made up of flag officers, and including the commander-in-chief of the Atlantic fleet, the commander-in-chief at Plymouth, and the naval secretary at the Admiralty, played the cadets' cricket team.

One copy of the week-day routine, both summer and winter, is forwarded. From this routine it will be noted that the senior cadets have reveille an hour before the junior cadets, and in other ways a considerable distinction is made between the juniors and seniors. This is particularly so in the case of cadet captains, who have a very important part as cadet officers, particularly for the junior cadets.

There is forwarded also one copy of the athletic and recreational programs, in which the individual achievements of each cadet are carefully watched.

The cadets remain at Dartmouth for three and two-thirds years (or 11 terms), after which they spend 2 terms in a training ship and then go to sea as midshipmen. During the period spent at Dartmouth the cadets have three vacations a year—four weeks at Christmas, four weeks at Easter, seven weeks midsummer. During these vacations the cadets must leave the naval college and be taken care of by their parents or guardians.

One is particularly impressed with the following marked characteristics of the cadets at Dartmouth and their training there:

(*a*) Age for entering is restricted to between 13 years 5 months and 13 years 9 months.

(*b*) Eleven or twelve grades of advancement, and a further division of three rates of progress in each grade.

(*c*) The method of developing officer-like qualities, principally through naval traditions, and the absence of infantry drill.

(*d*) The pay and expenses of the cadets have to be met by their parents or guardians.

GREAT BRITAIN.

SERVICE IN BRITISH SUBMARINES.

August, 1923.

The disinclination on the part of the average lower-deck rating to serve in submarines appears to be causing the Admiralty some anxiety, and an order has been circulated throughout the service pointing out that various classes of men are urgently required for this branch. It is true that there never has been a rush to volunteer for service in submarines, and when the additional risks and "hard-lying" conditions are taken into account it is not, perhaps, surprising. From time to time the Admiralty has been obliged to call attention to the vacancies existing and to hold out the inducement of extra pay and position connected with the submarine service. For the crews of seagoing submarines the flat rate per day is, in fact, practically double that paid to men on general service, while for submarine ratings in depot ships or undergoing instructional courses the rate is about half as much again as the general-service pay.

GREAT BRITAIN.

TARGET PRACTICE OF H. M. S. "CERES."

July, 1923.

The following is a reliable report on the target practice firing of the British light cruiser *Ceres*, held on July 9, 1923, in the Sea of Marmora:

Location of range, Sea of Marmora, 10 miles south-southeast of Constantinople.

Estimated course of target, 300° true.

Estimated course of firing ship on first leg of run, 270° true.

Estimated course of firing ship on second leg of run, 330° true.

Estimated range at middle of run (at end of first leg), 3,500 yards.

Run made to port.

Estimated position of commence firing, target bearing 36½° forward of the beam.

Speed of the firing ship, 10 knots.

Speed of the target ship, 5 knots.

Number of guns engaged, full main battery.

First leg, 12 salvos were fired in two groups of 6 salvos, with about 1 minute interval between the groups.

Firing interval, about 6 to 9 seconds.

Kind of control, pointer fire. (Salvos were gotten off a little raggedly.)

Salvos contained from 3 to 5 shots.

A straddle was obtained on the third salvo of the first string.

Estimated pattern, 150 yards long by 30 yards wide.

After second group, when target was estimated at bearing 30° forward of the port beam, the firing ship changed course to the right 60° to course 330° true.

Commence firing was given on the turn when the ship had turned about 30°.

There then followed two groups of 6 salvos each, or 12 salvos as on first leg.

It appeared that the first salvos of each group did not straddle the target but they were brought on for each group.

Estimated elevation of guns (probably inaccurate) 3 to 5°. There was absolutely no smoke or visible gases made by the guns. The flash was almost negligible, not being visible with the naked eye from observer's position, about 300 yards astern of the firing ship.

Sea smooth; wind force 2, from northeast; visibility, excellent. Target used was estimated at 50 feet long by 30 feet high and was made up with a black screen covering the upper and lower portions of the target, leaving about one-third the height of the target in its center uncovered.

FRANCE.

SOME OBSERVATIONS REGARDING MORALE OF NAVAL CONSCRIPTS.

29 August, 1923.

1. Reenlistments, after completing the period of obligatory service in the French Navy, from the personnel of the Department of Calvados (north coast of France bordering on the English Channel), are nil.

The men of this district take pride in the fact that all their young men quit the navy immediately upon completion of their obligatory service.

The navy has no place in the heart of these fisher folk. They leave it with only disagreable memories.

The whole navy, including officers with their authority, food, privileges, inducements, etc., is foreign to the standards and ideals of these people.

If a young man from this Calvados district were to choose the navy as a career, he would be regarded by his fellows as lazy and seeking an idle life.

These fisher folk would prefer to pass their whole lives as poor fishermen rather than spend five years in the navy to gain a pension.

Excepting the Bretons, the seafaring people of France have the same attitude toward the navy. But for the Bretons there would be no reenlistments in the navy.

The Calvados fishermen state that the Bretons are thick-headed and do not mind being led around by the nose.

The majority of ships of the French Navy spend a great deal of time in the navy yards in Brittany, seldom going to sea for a long length of time, so that the Bretons can have a store on shore run by their wives.

The Breton is a jack-of-all-trades—neither sailorman, fisherman, nor farmer—trying his hand at all and always having his eye on a shore billet.

2. Informant adds the following paragraph from his own observations in Brittany as well as in Calvados:

The reason of the great dislike for the Navy seems to be the bridge between the officers and men. I was impressed with the fact that men have a deep-rooted opinion that all officers savor of bourbonism. They accuse the French officers of egotism and lack of interest in their profession or in their men. One fisherman informed me that officers were officers because it was considered an aristocratic profession and that they were pastmasters in the art of looking out for themselves (feathering their own nests).

I noticed a total lack of appreciation of the status of an officer as exists in our Navy. It is easy, however, to see the bridge existing between the French naval officer and the enlisted man. We can take as an example the insolent manner of a simple employe d'administration in a post office when dealing with the public, then picture a young, handsome lieutenant from the Ecole Navale, whose father perhaps owns a château in Bretagne, having dealings with the simple son of a Brest fisherman. To an American the above trait is characteristic of the French, and not alone of the French naval officer—but the unfortunate enlisted man sees it only in the naval officer.

In connection with the Breton fishermen sticking to the navy as a career, from my personal observation while in Brest, I think the real reason is as follows:

Brittany, due to its large fishing population, has a very large number of widows. (This fact is borne out from the amount of charitable collections in Brittany for wives of shipwrecked mariners.) Consequently, the children of said widows are taken care of by the navy and placed on board training school ships. The school ship at Brest has at all times about 200 boys on board and I know from experience that they can not take care of all the applicants;

some are too young, others not up to physical standard, but all claiming enlistment, due to the fact that their father was drowned at sea. As these boys have not any chance of a civilian career, they can practically all be called good subjects for reenlistments.

JAPAN.

MISCELLANEOUS NAVAL NOTES.

August, 1923.

From Japanese press.

Beginning early in October, 1923, grand naval maneuvers will be held. It is probable that the active fleet under the command of Admiral I. Takeshita will represent the enemy fleet, and the reserve fleet under the command of Admiral K. Suzuki will represent the defending fleet, and the location of the maneuvers will be in the waters immediate to the southward of Japan as far as the Loochoo Islands.

During the month of July, 1923, the entire Japanese active fleet has been engaged in long-range gunnery practice in the vicinity of Saiki-wan and Bungo Channel. The results of this practice has not been announced except the statement that it was satisfactory.

During the recent long-range gunnery practice of the Japanese fleet, a crack developed in one of the 14-inch guns of the *Ise*. This crack was discovered in time to avoid a serious accident.

It is also reported that the firing of the *Nagato* and the *Mutsu* was not completed owing to defects developing in their turret guns or gun mounts.

The light cruiser *Yubari* was completed at the Sasebo naval station and delivered to her commanding officer August 1, 1923.

The *Yubari* was seen by informant at Sasebo in July, as he was going through the Sasebo dockyard. He was only allowed to pass hurriedly near the bow of the *Yubari* and no special details could be noted. However, a casual glance indicated that it would require several months work to place the *Yubari* in readiness to join the fleet.

The *Yubari* is due in Yokosuka on August 25, 1923, but it is not known what she will be doing in the meantime.

The Japanese press have vague references to special technical features embodied in the *Yubari* contained in no other man-of-war.

JAPAN.

NEW RIVER GUNBOATS FOR YANGTZE.

August, 1923.

The Eastern Engineering & Shipbuilding Works, Yangtzepoo, Shanghai, launched the second of the Japanese river gunboats on July 16, 1923. The launching of this, as of the former, was made in the presence of a large number of Japanese and Chinese residents, and the launching ceremony was performed by Miss Funatsu, daughter of the Japanese consul general, and the Japanese consul general delivered an address on this occasion.

The Eastern Engineering & Shipbuilding Works is predominantly a Japanese firm; however, it is one of the well-known engineering firms of Shanghai.

The gunboat launched on the 16th was christened the *Katata*, and is a sister ship of the *Seta*, which was launched just one month ago. Both are constructed particularly for use on the Yangtze River. Both vessels are alike, having a length over all of 184 feet, molded breadth of 27 feet, normal draft 3 feet 4 inches, with a displacement of 338 tons, and a speed of 16 knots. The *Katata* has 2 vertical triple-expansion engines, 2 boilers, and 2 propellers, and the press states that she will have a crew of 62.

The construction of the vessels for operation in the Yangtze River in the Port of Shanghai is an exceedingly wise one, inasmuch as the vessels must be of shallow draft and will stucturally be incapable of navigating the ocean during severe weather.

Consul General Funatsu in his address is reported to have said:

> We Japanese people are not anxious to build and place these gunboats on the Yangtze, but in view of the present situation in China the Japanese Government deems it absolutely necessary to construct gunboats which can sail up the Yangtze for the protection of the lives and property and other interests of Japanese residents; otherwise there will be no necessity to increase our naval forces in China. I hope the anti-Japanese boycott will be ended in order that peace and friendship may exist between the Chinese and Japanese people. I trust that peace and order may be restored as soon as possible and reign permanently and that the lives and property of foreigners may be protected by the Chinese themselves. Then these boats will become unnecessary.

JAPAN.

PROPAGANDA FOR BUILDING LIGHT CRUISERS.

August, 1923.

In a recent article in the Kokumin by Vice Admiral K. Saito, retired, on the subject of "Our oversea defense," the following occurs after a lengthy discussion of how badly Japan was weakened as a result of the Washington Conference:

There are some people who claim it to be folly to spend enormous sums for equipment of oversea forces when airplanes are making such rapid progress. While it is true that the prowess of airplanes is certainly great, it has not yet reached such a state that they can outdo war vessels. Our buildings are such that they have least resistance against aerial attack, and in order to prevent such attack we must have airplanes. However, due to our geographical position, such warfare will occur in the second line of defense, and the first line of defense must rest with war vessels. In case the enemy tries to attack our land, she must have an aviation base in near-by waters, or at least must have her airplane depot ships come near us. Therefore, as long as we control the near seas and keep off enemy ships, she can not attack our land with airplanes. Therefore vessels are a necessity in the first line and air forces in the second line.

As above stated, we must have as a minimum oversea forces sufficient from the purely defensive standpoint. The question is, Does our main sea force approach such limit and is it sufficient to accomplish the purposes above mentioned? Regretful as it is, we can not say yes. In order to remedy this, first, we must work for attaining the fullest internal efficiency; and, second, increase ships not restricted, and expand aviation corps. In order to discuss the present condition of ships not restricted it becomes necessary to do so in comparison with those of the United States. The United States as soon as she joined the Great War increased her naval strength with great speed, and increased her war vessels, especially destroyers and submarines. Even those completed since 1914 are of a great number, that is:

Battleships	12
Destroyers	289
Submarines	89
Airplane depot ships	3

And a large number of special service ships.

On the other hand, Japan while planning the 8-8 program, went ahead concentrating what means she had mostly on capital ships, intending to go on with lesser ships gradually. She was having much difficulty in carrying out the program on account of the financial disturbances after the war, when the Washington Conference was called, and the restriction on capital ships was agreed upon. The agreements reached at Washington merely covered restriction on capital ships and airplane depot ships, and since nothing was agreed upon about the ratio of noncapital ships, it it practically permitted to build them at will. However, Japan voluntarily restricted their construction, and revised her building program covering this class of vessels. The follow-

ing is a comparison of pragrams old and new, showing a decrease of 38 vessels and 13,393 in tonnage:

Program for auxiliary class ships.

	Number.	Tons.
Under the 8-8 program:		
Cruisers	26	146,750
Destroyers	94	102,556
Submarines	93	82,852
Total	213	332,158
Revised program:		
Cruisers	25	155,935
Destroyers	81	93,525
Submarines	69	69,313
Total	175	318,773

The comparison of American and Japanese noncapital ships at the end of 1922 shows that in cruisers and destroyers Japan stands 40 per cent of the United States and in submarines 39 per cent. Again, comparing cruisers of less than 16 years old and destroyers and submarines less than 12 years old, Japan stands 39 per cent in criusers and destroyers and 43 per cent in submarines.

According to an article appearing in an American newspaper during March the American Navy Department will be asking Congress to grant the construction of eight 10,000-ton cruisers with 8-inch guns and three each of 2,500-ton class mine-laying and scouting submarines. In this connection Mr. Roosevelt, the Assistant Secretary, said: "This increase is absolutely necessary to maintain the naval ratios set by the Washington Conference. We some time ago asked, in accordance with the recommendation of the General Board, the construction of sixteen 10,000-ton cruisers, 12 each of mine-laying and scouting submarines, but were reduced to the above on account of financial reasons." From this it can be gathered, should the above-mentioned financial obstacle disappear, that the United States is likely to carry out the increase of over twice as much or more.

Should the above plan be carried out, the comparative strength at the end of 1927 will be Japan standing 55 per cent in cruisers and destroyers and 75 per cent in submarines and the ratio of the entire noncapital ships will become about 5 to 8. Thus if the plan of the General Board is to be carried out, the ratio of noncapital ships will become entirely out of proportion.

The United States for the past several years has been most eager for the construction of destroyers, not building any cruisers at all. If we are to compare cruisers alone the ratio stands as United States, 1, Japan, 2, England, 5, but in destroyers Japan possesses only 0.19 against the United States, 1. That the American officials only mention the ratio of cruisers, keeping silent as to that of destroyers, is their shrewd trick in their effort to enlist the public interest. During the Washington Conference Mr. Hughes's proposal made no distinct classification between cruisers and destroyers when referring to noncapital ships. It is based on the reasoning that these two class vessels are cooperative in their usefulness, hence best not to separate one from the other. This is a classification well suited to the United States, but Japan falls below 40 per cent of the United States according to this classification.

The French contended at the Washington Conference that submarines are the most important branch in a navy inferior in capital ships, and thus the agreement in submarine restriction failed. Hereafter, submarines will go out

much to sea and engage in scouting of enemy's bases, blockading, mine laying, and in attacking of enemy's ships, besides participating in fleet action or tending to protection of lines of communication. Thus their usefulness will rapidly increase, their size too increasing more and more. Thus even a country like the United States possessing powerful overwater forces is eagerly working for construction of this class of vessels. To Japan the necessity for increasing this particular class is most obvious and urgent.

In order for a fleet comprising various units to do its best, it is necessary to attach a large number of special service ships, that is, tankers, colliers, repair ships, transports, dispatch ships, etc. While it is possible to commandeer merchant ships for these purposes in time of war, it is nevertheless necessary to have such special ships even in time of peace. It is to be regretted that among our merchant marine fine and speedy ships are scarce, and this is another point that must have our serious consideration.

As above stated, our navy received a cruel restriction in capital ships, and we ought to think seriously of remedying it at least by maintaining sufficient strength of noncapital ships, but the United States seems bent upon opposing even this as can be gathered from the report of the Secretary of State submitted to Congress last December.

Thus the question of noncapital ships still remains as pending, and it may lead to another conference to consider it, but the Washington treaty greatly annoyed the French, as can be seen from her tardy ratification, and there is little prospect that such a conference will take place in the near future. The United States in her characteristic way may oppose, we know not when and what, but when it comes our people, united as one, ought to try their best not to repeat the mistake we made at the Washington Conference.

JAPAN.

SALARIES AND ALLOWANCES OF NAVAL PERSONNEL.

August, 1923.

Below are given tables of salaries and allowances in the Japanese Navy in effect at the present time.

TABLE 1.—*Salaries.*

[Those above warrant officer: While on waiting list eight-tenths of salary; unemployed list, six-tenths of salary; suspended list, three-tenths of salary.]

	Yen per year.
Admirals	7,500
Vice admirals (all branches)	6,500
Rear admirals (all branches)	5,600
Captain (all branches)	4,600
Commanders (all branches)	3,600
Lieutenant Commanders (all branches)	2,600
Lieutenant (first class) (all branches)	2,100
Lieutenant (second class) (all branches)	1,800
Lieutenant (third class) (all branches)	1,600
Sublieutenant (first grade, first class) (all branches)	1,200
Sublieutenant (first grade, second class) (all branches)	1,020
Sublieutenant (second grade)	850

Special officers (commissioned warrant officers):

	Yen per day.
Lieutenant (first class) (all branches)	2,290
Lieutenant (second class) (all branches)	2,110
Sublieutenant (first grade, first class) (all branches)	1,910
Sublieutenant (first grade, second class) (all branches)	1,775
Sublieutenant (second grade, first class) (all branches)	1,600
Sublieutenant (second grade, second class) (all branches)	1,480
Kohosei (midshipmen)	670
Warrant officers (first class)	1,260
Warrant officers (second class)	1,150
Warrant officers (third class)	1,043
Warrant officers (fourth class)	930
First grade petty officers (first class)	1.82
First grade petty officers (second class)	1.61
First grade petty officers (third class)	1.37
First grade petty officers (fourth class)	1.14
Second grade petty officers (first class)	.95
Second grade petty officers (second class)	.90
Third grade petty officers (first class)	.76
Third grade petty officers (second class)	.71
First-class seaman	.50
Second-class seaman	.40
Third-class seaman	.35
Fourth-class seaman	.17

NOTE.—Vice Admiral holding post of Chief of General Staff is paid annual salary of 7,300 yen.

Vice Admiral holding the post of Commander in Chief at Yokosuka, Kure, or Sasebo may be increased to 7,000 yen.

Captains commanding battleships or cruisers over 25,000 tons, also those being captain for over five years and holding important post, can be paid specially 5,100 yen.

Table 2. out of effect.

TABLE 3.—*Foreign post allowance.*

	England, Russia, United States, France.	Germany, Austria, Holland, Denmark, Sweden.	Italy.	China.
	Yen per year.	*Yen per year.*	*Yen per year.*	*Yen per year.*
Embassy or legation attaché:				
Flag officers	15,000	13,500	12,000	9,000
Captains, lieutenant commanders	10,500	9,750	9,750	5,580
Lieutenants, sublieutenants (second class)	9,150	8,550	8,550	5,130
Embassy or legation assistant attaché:				
Captains, lieutenant commanders	7,500	6,750	6,750	4,500
Lieutenants, sublieutenants (second class)	6,750	6,300	6,300	4,000
Stationed at embassy or legation:				
Warrant officers	7,500	6,500	6,500	4,500

NOTE.—Foreign post allowances for officers stationed in countries of Europe not mentioned above, or Brazil or Chile, will for the time being be the same as for Italy.

The Minister of Marine can decrease all allowances mentioned above when necessity arises.

Attaché to embassy or legation, officers stationed abroad for purpose of studying military or scientific investigation receive the allowance as per table No. 3.

When their wives are with them, for the actual time wives are staying at the place of husband's post, additional three-tenths will be given in Asiatic countries; additional four-tenths in the countries other than the above.

(The foreign post allowances are in addition to salary.)

Table 4, annulled.

TABLE 5.—*Sea-duty pay, yen per diem.*

	Tied up in harbor.			Home coast south of north latitude 44; north of north latitude 26			Home coast north of north latitude 44; south of north latitude 26; Chinese coast; Russian coast south of north latitude 50.			North of 50, Asiatic Russian coast; east of east longitude 40; west of west longitude 150.			West of east longitude 40; east of west longitude 150.		
	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
Admiral	2.00	....	....	3.20	....	....	6.40	....	....	16.00	....	....	22.40	....	....
Vice admiral (all branches)	2.00	....	....	2.80	....	....	5.60	....	....	14.00	....	....	19.60	....	....
Rear admiral (all branches)	1.70	....	....	2.40	....	....	4.80	....	....	12.00	....	....	16.80	....	....
Captain (all branches)	1.40	1.60	2.30	2.00	2.80	3.90	4.00	4.80	7.20	10.00	12.00	16.80	14.00	16.00	19.20
Commander (all branches)	.85	1.00	1.70	1.20	1.70	2.80	2.40	3.10	4.80	6.00	7.50	11.30	8.40	10.00	14.00
Lieutenant commander (all branches)	.65	.75	1.20	.90	1.25	2.00	1.80	2.30	3.40	4.50	5.60	8.40	6.30	7.50	10.50
Lieutenant and special lieutenant (all branches)	.55	.65	1.10	.80	1.10	1.80	1.60	2.10	3.15	4.00	5.00	7.50	5.60	6.70	9.40
Sublieutenant, first and second class (all branches)	.40	.50	.70	.55	.75	1.20	1.10	1.45	2.20	2.75	3.40	5.10	3.50	4.60	6.50
Sublieutenant, first, and special sublieutenant, second	.40	.50	.75	.60	.80	1.30	1.20	1.55	2.30	3.00	3.70	5.50	4.20	5.00	7.00
Midshipmen	.20	.30	.50	.35	.50	.80	.70	.90	1.35	1.75	2.20	3.30	2.45	2.90	4.10
Warrant officers	.30	.35	.60	.45	.60	.95	.90	1.50	1.70	2.25	2.80	4.20	3.15	3.80	5.30
First grade petty officers	.15	.17	.35	.22	.35	.70	.33	.50	1.10	.55	.82	1.80	.88	1.20	2.80
Second and third grade petty officers	.10	.12	.26	.16	.24	.52	.24	.36	.80	.40	.60	1.40	.64	.90	1.90
First-class seamen	.08	.09	.20	.12	.18	.40	.18	.27	.60	.30	.45	1.00	.48	.68	1.50
Second and third class seamen	.06	.07	.18	.07	.13	.36	.10	.18	.50	.17	.32	.90	.28	.48	1.35

NOTE.—To those on board destroyers, torpedo boats, ice crushers, and ships below 1,500 tons (B) allowances are given. To those on board submarines (C) allowances are given, and to those on board ships other than mentioned above (A) allowances are given.

In case sea pay for those on board ships which make ports in Chosen, Taiwan, and Manchuria their base ports is less than corresponding foreign-post pay, the amount equal to foreign-post allowance is given as the sea pay.

To commander in chief of fleet, commanding officers of fleet, division commanders, chief of staff of fleet, commanding officer of ship, commanding officers of destroyer flotillas, commanding officers of submarine flotillas, commanding officers of torpedo flotillas, commanding officers of special-service ships, commanding officers of destroyers, submarines, torpedo boats, special-service boats, master of life-saving ships, and heads of such other divisions specially organized at the time of maneuvers, etc., are paid an increase of two-tenths of sea pay. (Per diem allowances are in addition to salary.)

Tables 6 and 7 annulled.

TABLE 8.—*Housing allowance, yen per diem.*

[When quarters are not furnished to officers on duty in Chosen, Taiwan, Manchuria, Karafuto (A), pay is given. When those on board submarines can not pass night on board the boats or on depot ships and are ordered to pass night on shore (B), pay is given.]

	A	B
Vice admirals, all branches	2.40	.....
Rear admirals, all branches	1.50	.....
Captains, all branches	1.245	1.05
Commander, all branches	1.05	1.05
Lieutenant commander, all branches	1.05	1.05
Lieutenant and special lieutenant, all branches	.75	.90
Sublieutenant, first and second grade, all branches	.675	.90
Special officers, all branches	.675	.90
Warrant officers	.60	.60
Employees	.375	.....
Hired men	.30	.30
Petty officers	.....	.45
Seamen	.....	.375

Table 9, annulled.

TABLE 10.—*Equipment allowance.*

Initial allowance:	Yen.
Officers	400
Warrant officers	250
Midshipmen	100

NOTE.—Initial allowances are paid when newly appointed to an officer; appointed as midshipmen, or advanced from petty officer to warrant officer.

Extraordinary allowance:	Yen.
Flag officers	500
Captain	450
Commander	450
Lieutenant commander	450
Lieutenant, first to third class	400
Sublieutenant, first and second grade	400
Special officers	300
Warrant officer	250
Midshipmen	100

NOTE.—Officers who lose their clothing due to destruction or sinking of ship, or damaged to such an extent that they can not be used, are entitled to the extraordinary allowance.

TABLE 11.—*Outfit allowance.*

	Yen.
Flag officer	300
Captain	150
Commander	150
Lieutenant commander	150
Lieutenant, first to third class	100
Sublieutenant, first and second grade	100
Special officers	45
Warrant officer	40
Midshipmen	40

NOTE.—Officers embarking on board ships going outside of east longitude 90, west longitude 140, south latitude 34, and north latitude 60 outfit allowance is given as per Table 11 at the time of departure. It equally applies to those going to his post having received an order to take such ship after her departure. Midshipmen going through the first period of training, those ordered to go on board ships in the section above named bound homeward, or those who have already received the allowance once and ordered to go on board some ship do not again receive the allowance. When captain is a commanding officer of a ship it is increased by 50 yen.

TABLE 12.—*Retiring allowance (lump sum) for petty officers and seamen.*

	Over 6 years.	Over 8 years.	Over 10 years.
	Yen.	*Yen.*	*Yen.*
Petty officers	70	75	80
Seamen	65	70	75

NOTE.—Petty officers and seamen when coming under one of the conditions named below are paid as per Table 12.

1. Death in active service.
2. When leaving the service due to injury received or sickness contracted during performance of duty, not due to his own misconduct, the injury not being serious enough to entitle him to receive "grant money" for the injured and sick or the "increased pension."
3. When leaving the service after serving over 6 years and less than 11 years. (According to the new pension law going into effect October 1, 1923.)

Pay for retired officers and men called ordinary pension in contrast to grant money and increased pension.

	Total service.				
	11 years.	12 years.	13 years.	15 years.	50 years.
	Yen per annum.	*Yen per annum.*	*Yen per annum.*	*Yen per annum.*	*Yen per annum.*
Admiral	2,500	2,550	[1]	[1]	4,450
Vice admiral	2,167	2,210	2,254	2,341	3,863
Rear admiral	1,867	1,904	1,942	2,017	3,329
Captain	1,534	1,564	1,595	1,656	2,723
Commander	1,317	1,343	1,370	1,423	2,350
Lieutenant commander	1,084	1,105	1,127	1,170	1,923
Lieutenant	784	799	815	846	1,388
Sublieutenant (first grade)	567	578	590	613	1,015
Sublieutenant (second grade)	467	476	486	505	837
Warrant officer	400	408	416	432	712
Petty officer (first grade)	285	292	299	313	558
Petty officer (second grade)	255	262	269	283	528
Petty officer (third grade)	225	232	239	253	498
Seamen (first class)	200	206	212	224	434
Seamen (second class)	180	186	192	204	414
Seamen (third class)	165	171	177	189	399
Seamen (fourth class)	150	156	162	174	384

[1] 50 yen each additional year.

Increased pension per annum.

[When a public official receives injuries or contracts a disease while in the performance of his duty, incapacitating him for duty, and leaves the service without disqualifying causes, he is entitled to the ordinary pension and the increased pension.]

CLASS A.—IN BATTLE OR EQUIVALENT OFFICIAL DUTIES.

Degree of injury.	Flag officers.	Captain to lieutenant commander.	Lieutenant to sub-lieutenant, second grade.	Warrant officer.	Petty officer.	Men.
Special:						
First	2,400	1,800	1,200	1,080	990	900
Second	2,000	1,500	1,000	900	825	750
Third	1,600	1,200	800	720	660	600
Fourth	1,280	960	640	576	528	480
Fifth	1,000	750	500	450	413	375
Sixth	800	600	400	360	330	300

CLASS B.—ORDINARY OFFICIAL DUTIES.

Special:						
First	1,920	1,440	960	864	792	720
Second	1,600	1,200	800	720	660	600
Third	1,280	960	640	576	528	480
Fourth	1,024	768	512	461	423	384
Fifth	800	600	400	360	330	300
Sixth	640	480	320	288	264	240

NOTE.—"Special" carries the amount equal to the first, plus not over 50 per cent of it. Degree of injury or sickness is defined under separate ordinance.

Grant money for the sick and injured (lump sum).

[When petty officers and men are injured or contract disease while in the performance of their official duties, and while not serious enough to make him an invalid, and leaves the service due to such injury or disease, he is entitled to grant money for the sick and injured. This grant money may be given with ordinary pension or spot pension.]

CLASS A.—FIGHTING OR ITS EQUIVALENT DUTIES.

Degree of injury.	Petty officers.	Men.	Degree of injury.	Petty officers.	Men.
	Yen.	*Yen.*		*Yen.*	*Yen.*
First	1,650	1,500	Sixth	825	750
Second	1,485	1,350	Seventh	660	600
Third	1,320	1,200	Eighth	495	450
Fourth	1,155	1,050	Ninth	330	300
Fifth	990	900	Tenth	165	150

CLASS B.—ORDINARY OFFICIAL DUTIES.

	Yen.	*Yen.*		*Yen.*	*Yen.*
First	1,320	1,200	Sixth	660	600
Second	1,188	1,080	Seventh	528	480
Third	1,056	960	Eighth	396	360
Fourth	924	840	Ninth	264	240
Fifth	792	720	Tenth	132	120

Spot pension.

[Spot pension is paid to those who leave the service before having reached their eleventh year. This is paid to those who leave the service due to reduction of personnel, etc.]

	Length of service.									
	1 year.	2 years.	3 years.	4 years.	5 years.	6 years.	7 years.	8 years.	9 years.	10 years.
	Yen.	*Yen.*	*Yen.*	*Yen.*	*Yen.*	*Yen.*	*Yen.*	*Yen.*	*Yen.*	*Yen.*
Admiral	.....	.....	.....	.....	.....	.....	4,375	5,000	5,625	6,200
Vice admiral	.....	.....	.....	.....	.....	3,250	3,792	4,333	4,875	5,417
Rear admiral	.....	.....	.....	.....	2,333	2,800	3,267	3,733	4,200	4,667
Captain	.....	.....	.....	1,533	1,917	2,300	2,683	3,067	3,450	3,833
Commander	.....	.....	988	1,317	1,646	1,975	2,304	2,633	2,963	3,292
Lieutenant commander	.....	542	813	1,083	1,354	1,625	1,896	2,167	2,438	2,708
Lieutenant	196	392	588	784	980	1,176	1,372	1,568	1,764	1,960
Lieutenant (junior grade)	142	283	425	567	708	850	992	1,133	1,275	1,417
Ensign	117	233	350	467	583	790	817	933	1,050	1,167
Warrant officer	100	200	300	.....	500	.....	700	800	900	1,000
Petty officer (first grade)	71	143	214	285	356	428	499	570	641	713
Petty officer (second grade)	64	128	191	255	319	383	446	510	574	638
Petty officer (third grade)	56	113	169	225	281	338	394	450	506	536

ARGENTINA.

REMARKS CONCERNING RELATIONS BETWEEN UNITED STATES AND ARGENTINE NAVIES.

August, 1923.

In a recent talk with a senior naval officer, the conversation was about as follows:

2. He said that a few days ago in the House of Deputies, when the appropriation bill for $9,500,000 for the modernization of the Ar-

gentine battleships was before the House, a certain deputy made rather disparaging remarks about sending the ships to the United States and then brought up the United States naval mission to Brazil and made the usual remarks about bad faith on the part of the United States, etc.

3. He also stated that when the question comes up again in the House of Deputies, probably this week or next, the Minister of Marine intends to make an official statement to the House in regard to the United States naval mission to Brazil, quoting the United States law covering the sending of United States naval missions to South American countries and showing that this law was not passed for the benefit of any one country but was open to any and all countries that wished to avail themselves of its privileges. He will say that Argentina as well as any other South American country could have a mission if they asked for it.

4. Also he will say that the Secretary of the Navy could neither detail nor allow United States naval officers to go to another country and accept such a position unofficially. The request must come from the Government concerned and requires the approval of the President of the United States.

5. At the same time the Minister of Marine will give a detailed account of the building of the *Rivadavia* and *Moreno* in the United States showing that through the kindness, courtesy, able assistance, and cooperation of the United States Navy Department it was possible to have these ships constructed in the United States according to the latest plans, specifications, etc. Also he will tell how much the Navy Department in Washington has helped and is still helping the Argentine Navy.

6. Informant also told me that the British firm bidding for the modernization of the *Moreno* and *Rivadavia* only wished to supply the materials and not to do the work. At the same time he said their bid was higher than the United States bid.

7. He seems to be quite sure that the ships will be sent to the United States.

BRAZIL.

FLEET MOVEMENTS.

3 September, 1923.

1. The Brazilian fleet sailed this date for Santos, to remain there until September 16. The fleet consisted of the following vessels: Battleships *São Paulo*, *Minas Geraes*, *Deodoro*, cruiser *Barroso*, transport *Cuyaba*, torpedo destroyers *Maranhão*, *Rio Grande do*

Norte, *Alagoas*, *Matto Grosso*, tender *Belmonte*, auxiliary cruiser *Jose Bonifacio*, mine ships *Heitor Perdigão*, *Moniz Freire*, *Mario do Couto*, *Carneiro*, *da Cunha*, submarines *F 1*, *F 2*, *F 5*, hydroairplanes *F5L*, *Nos. 1*, *2*, *3*, *4*, *5*.

2. The chief of the naval mission and five officers are accompanying the fleet to Santos, to return on September 9.

DENMARK.

SOME NOTES REGARDING THE GENERAL SITUATION.

July, 1923.

While this vessel was at Copenhagen I had, while attending various functions, occasion to meet several ministers of the Danish Government, the King and Queen, and some of the members of the court, and I gathered the following, which I believe will prove of interest, especially in view of the close and intimate relations that existed between the royal families of Denmark and Russia and the intimate commercial relations that exist between Denmark and Germany.

In conversation with a lady of the Danish court I was informed that she had relatives in both France and Germany, and she said that she very much feared an upheaval in Germany by the communists and extreme socialists unless the then existing economic conditions were greatly improved. That if the pressure now being applied to Germany was continued she did not believe that the stable and conservative element in Germany would be able to hold the radicals back, and that a complete failure of the then existing government would be followed by economic disaster and chaos. I tested this by expressing a contrary belief, and found the lady very sincere in her opinion, and from her position—she was a woman of mature years and high rank—I distinctly gathered that the opinion she expressed was that held by the highest authorities in Copenhagen and by those who are in a position to be best advised. It is possible, however, that the opinion of the court may be colored by the disaster to the closely related Russian royal family.

I had heard from a high authority in Copenhagen, other than Danish, that before the Russian Soviet authorities would enter into a recent trade conference and agreement with Denmark that the Danish Government must first send out of that country a certain elderly lady of the highest royal connection who is closely related both to the present Danish royal house and the late royal family of Russia. Color was lent to this report by the fact that this lady had left Denmark, where she had been living for a long time, and had

recently taken up her residence in England. I was informed that this matter was not generally known but was considered authentic. I soon had an opportunity of meeting the Minister of Foreign Affairs of Denmark at luncheon, and when the opportunity presented I asked him if it were true that the Soviets had made such a demand and that it had been complied with as a condition of the agreement entered into between the Danes and the Soviets. He replied at once that the report was not true; that the lady was in England voluntarily and on a visit; but that the Danish Government, as a commercial necessity, with a view to their present and future trade, had to enter into a trade agreement with the Soviets, as it was found that unless they did so practically all trade would be routed through the Kiel Canal and that Denmark would suffer economically not only at the present time but that trade relations and routes would be built up that would greatly prejudice her future trade and commerce, and her shipping would also suffer.

There was little concealment among those I met in Copenhagen that they had little affection for Germany. They stated that outside of the matter of territory that had been taken from them and but partly returned after the war, that Germany during the World War bullied and threatened them in many ways and did not respect their neutrality. I also heard expressed among responsible Danes the belief that Latvia, Esthonia, and the other States carved out of old Russian territory would not continue to exist as independent countries. The opinion they expressed was that regardless of the form of government that would eventually be adopted in Russia, Russia would sooner or later, when strong enough, claim her own, and that the present large military force maintained in Russia was in part being built for this purpose, and that there would be no government in continental Europe strong enough to prevent that consummation, and that Great Britain was in no way able to prevent it through the use of her fleet, and that she did not have the army nor the men to thwart such a plan even if the British Government or people so desired.

Danish shipping is reported to be in better employment than that of most countries. The following reasons are given as accounting for this in large part:

(*a*) The larger Danish lines, plying between Denmark and the United States and between Denmark and the Far East, did not have as many competitors as the lines between most other countries.

(*b*) That, except for the larger vessels of these lines, most Danish steamers are of moderate to small size, for which tonnage there exists a reasonable demand, especially between European ports.

(*c*) That on the Asiatic routes the Diesel (Bauermeister and Wain) engined ships could defy competition on long routes with coal-burning vessels, and that through the ownership of the shipping companies of their own oil fields and depots in the Far East and en route, they could figure more closely on freight rates than could their competitors. In this connection an officer of this ship spent the 10 days at Copenhagen at the works of Bauermeister and Wain obtaining data relative to the construction of their very successful Diesel engines and recent developments therein, for the Bureau of Engineering.

I was informed on good authority that the head of the Danish Asiatic Steamship Co., Mr. Anderson, is the most powerful factor in Danish economic life and that he practically dictates all measures that are being undertaken by the present Danish Government.

So far as could be judged, the Danish people, high and low, are friendly to Americans and to the United States.

HAWAII.

THE JAPANESE IN HAWAII.

September, 1923.

I. General.

HISTORICAL.

1. The first Japanese were sent to Hawaii under three years' contract in January, 1868. They comprised a small party of 48 laborers, and gave excellent satisfaction. Reports having reached Japan that they were being ill treated, two commissioners from that country arrived in 1870 to investigate the reports. Although the charges were declared unfounded by the commissioners, they nevertheless took back with them some 40 of their countrymen.

2. No further immigration of Japanese took place until 1885. After a long correspondence with the Japanese Government, in which the Hawaiian Government took the initiative, the former permitted the importation of their nationals on certain conditions. The first company under this agreement comprised 956 persons, including 101 children. Many misunderstandings arose between these people and the Japanese official representative on the one hand, and the plantation employers and the Hawaiian Government on the other, and further immigration was stopped by Japan until special inspectors arrived to settle the disputes and agree upon the status of the laborers. The Hawaiian Foreign Minister is quoted as having said,

"The number and character of these complaints, coming, as they do, from a portion of 720 people engaged in service here, exceed anything that the Hawaiian Government has had to deal with in the whole course of the immigration into this country of about 30,000 laborers of other races." The Japanese Government required, and received assurances from Hawaii, that the restrictions recently imposed by Hawaii on Chinese immigration should not be relaxed. In March, 1886, an emigration convention was ratified between the two Governments.

3. From this date the influx of Japanese was constant and rapid. Immigration companies among them brought in large numbers, lent the newcomers the required $50 to evade the regulations of the act relating to aliens landing in Hawaii, and many thousands were never plantation-contract laborers. Under the "most-favored-nation" clause of the treaty of 1871, the Japanese Government claimed for their nationals entire political equality with any other class of foreigners in the country. From the first of the contract laborers to the last shipload, which arrived June, 1895, 26 parties came under contract, totaling 29,139 Japanese—23,340 men and 5,799 women. Following this the Japanese companies brought in an additional number, approximately 10,000 persons. The Hawaiian Government had become alarmed, stopped the officially sanctioned importation of Japanese, and tried desperately to stem the incoming tide that continued after this act. In 1898 a party of immigrants were refused admission. The Japanese Government took up the matter immediately, dispatched the cruiser *Naniwa* to Honolulu, and forced an indemnity of $75,000 from the Hawaiian Government.

4. The annexation of Hawaii by the United States in 1898 changed the complexion of affairs very materially. The Japanese Government protested against the annexation without avail. The immigration laws of the United States superseded those of Hawaii, and contract labor was abolished. Many of the Japanese in Hawaii flocked to the mainland, and even newcomers from Japan used Hawaii as a stepping stone to California. Mainland employers sent labor recruiters, and charted steamers to Honolulu to entice and transport the Japanese away. The gentlemen's agreement, in 1908, between the United States and Japan stopped this movement; but before this date a large portion of the older Japanese residents of Hawaii had gone to the mainland and their places on the plantations filled by newcomers. The needs of the sugar plantations for cheap labor—the controlling factor in all of Hawaii's labor and immigration policies—had prevented the complete stoppage of immigration from Japan. Experiments with other nationalities as plantation laborers, begun after 1900, had not yielded the results desired by the sugar factors.

5. Under the operation of the gentlemen's agreement the immigration of Japanese entered a new phase. Japanese were not allowed to go to the mainland, except in limited numbers for special purposes, and Japan agreed to grant passports for Hawaii to certain classes only. The large labor replacements required by the plantations could no longer come from Japan, and the sugar interests turned to the Philippine Islands for their labor. But the passports granted by Japan are not controlled by the United States, and are issued to priests, teachers, relatives of Japanese resident in Hawaii, former residents of Hawaii, and, most important, to picture brides. The total makes a considerable incoming number, often balanced by those returning to Japan, however. The picture brides provided wives for the overwhelmingly male Japanese population of Hawaii of 1908, and from that date the Japanese births increased by leaps and bounds. The recent announcement of the Japanese Government that passports to the United States will no longer be granted to picture brides does not apply to Hawaii.

STATISTICS.

6. The Japanese population of Hawaii now comprises the largest single racial element in the Territory. The last Federal census was taken in 1920, and changes since then are estimated by the board of health and other agencies. Attention is called to the reports of Prof. Romanzo Adam's analysis of the vital statistics of the Japanese in these islands, forwarded by this office to the Office of Naval Intelligence.

7. The following figures are given for ready reference:

Total population of Hawaii (estimated June 20, 1922)		284,538
Total Japanese:		
Alien male	36,594	
Alien female	22,396	
Total (great majority adults)		58,990
Native-born male	29,100	
Native-born female	28,957	
Total (largely minors)		58,057
Grand total		117,047

Schools, 1922.

	Public.	Private.	Total.
Total for Hawaii	44,393	8,068	53,461
Japanese	21,348	1,598	22,946

The figures for 1923 will show a proportionately greater increase of Japanese.

Special election for Delegate, 1922.

Total registration	28,335
Japanese	970

Births, and rate, 1922.

	Births.	Rate.
Total for Hawaii	11,249	40.14
Japanese	5,590	48.21

The birth rates of the Spanish, Porto Ricans, and part Hawaiians exceed the Japanese rate, and the Portugese are not far behind. The first two races are numerically insignificant; but the Hawaiians and Portugese together provide a substantial number of non-Oriental future citizens.

8. Additional statistics are given under the separate headings following, but the above shows the outlines of the problem in these islands. Japanese comprise 41 per cent of the total population and of the school children, and in births equal all others together. When the other elements of the population are known, the problem is intensified. Some 5,486 Koreans are Japanese subjects; and 22,745 Chinese and 30,763 Filipinos add to the non-American character of the Territory. The remainder of the people, Caucasian, Latin, and Hawaiian, total 107,911, and may be considered good citizen stock.

II. Japanese Penetration.

LABOR.

9. Since the strike in 1920 of the laborers on the sugar plantations on the island of Oahu the Japanese have been gradually displaced by Filipinos as plantation laborers on all islands. In May, 1922, of 44,402 workers in this industry 16,992 were Japanese and 18,189 Filipinos, reversal of former conditions. No figures for other agricultural crops are available, but it is known that the Japanese exceed all others as field workers on pineapple plantations, and they are numerous in all of Hawaii's minor farming operations. On Government work, whether Federal or local, and applying equally to Government agencies and contractors, all employees must be citizens. The Japanese are thus barred from such employment. They are, however, the largest labor element in every other industry by virtue of their numbers, energy, and lower wage scale.

10. Statistics from the Japanese Foreign Office, published in the Hawaii Shinpo of April 27, 1923, lists the occupations of the entire Japanese and Korean community. In this list "Field workers" are enumerated as: Male, 17,895; female, 5,386; families of field workers,

male, 14,384; female, 17,462. The total, 55,127, shows the proportion of the Japanese population still employed as agricultural laborers, and their families. Beside the sugar and pineapple plantations, the rice, banana, and coffee industries take each a part of this total. Under the heading "Miscellaneous workers" there are: Males, 1,995; females, 419; families, male, 2,341; female, 2,938. This includes those in construction work, stevedores, interisland steamer crews, truckmen, etc. Under "Domestic servants" there are: Males, 2,364; females, 1,714.

ECONOMIC.

11. In addition to this employment as laborers there has been a rapid development among the Japanese of independent activities in recent years. Although this growth in economic lines does not yet aggregate very high, the indications are that the Japanese will more and more engage in business for themselves, and cease to be the employees of other races. Until recently the greater part of their earnings was sent to Japan. Their local leaders now advise and encourage the investment in Hawaii of this surplus, and new Japanese concerns are starting up all over the Territory. Land in Hawaii being tightly held in large areas by corporations and a few landowners, the Japanese have not advanced far in agricultural pursuits, except as tenant farmers. In many lines of business, however, they have already obtained a monopoly, and in other lines they form an important element.

12. The following figures for 1922 show their relative wealth:

Taxes collected for the year ending June 30, 1922.

Total	$9,675,373.55
Japanese	512,654.55

Gross value of real and personal property, 1922.

	Number persons.	Real.	Number persons.	Personal.	Total.
Total	17,402	$158,695,755	14,607	$112,966,729	$271,662,484
Japanese	1,750	3,768,158	4,630	7,017,131	10,785,289

Income taxes collected for year ending June 30, 1922.

	General.		Special.		Total.
	Number persons.	Amount.	Number persons.	Amount.	
Total	11,232	$1,148,528.34	942	$643,925.67	$1,792,454.01
Japanese	2,169	19,778.61	27	1,219.30	20,997.91

13. Though still a poor people by the above figures, as compared to several of the other races of Hawaii, their wealth in this country would be very much greater if they had not been sending annually millions of dollars to Japan. The new policy of investing their savings in Hawaii is too recent to show results, but judging from the figures of money sent away in the past, their wealth will increase both relatively and actually very rapidly from now on. Japanese banks, trust and savings companies, and investment companies are increasing in number, expanding in amount of business, and in general indicate a rapid growth.

14. In mercantile lines the Japanese country storekeeper has practically displaced the Chinese, formerly the people who kept the general stores of the countryside. In the towns and in Honolulu the small Japanese storekeeper is everywhere operating stores of all kinds, both in goods for their own nationals and catering to people of other races. There are a few well-established large business houses in Honolulu, with direct connections with Japan, and branches throughout the islands. Among them there is a growing tendency to handle American goods, but the importations from Japan still form the bulk of their trade, and incidentally pay the larger part of the import duties collected by the Customs Service at the port of Honolulu.

15. The following data indicate the degree of economic penetration:

(*a*) In truck growing and small farming, including the keeping of poultry and bees, there are a total of 4,823 Japanese engaged, including the productive persons and families. Fully half of the vegetables raised in the country, and all the flowers, are produced by Japanese.

(*b*) The fishing industry is a Japanese monopoly, though the retailers are still largely Chinese. There are three corporations engaged in the business, one entirely Japanese, and two composed of Japanese and Caucasian capital; but all employing Japanese fishermen exclusively. The Hawaiian Fishing Co. owns 50 gasoline sampans ranging from 5 to 40 horsepower, and employs 370 men. The Honolulu Fishing Co. owns 9 gasoline sampans of from 10 to 50 horsepower. The Pacific Fishing Co. operates 48 gasoline sampans of from 5 to 65 horsepower, and employs 350 men. In all 3,554 Japanese derive their living from this industry, to the exclusion of other races.

(*c*) In the building industry Japanese contractors now bid on jobs of any size, and the artisans very nearly monopolize the trades of mason, carpenter, painter, and allied callings. Important private contracts, let to Caucasian firms, are sublet to Japanese. As before stated, aliens are by law barred from Government work, but no other

important construction work is undertaken without using Japanese very largely. Recently a mill and lumber company was organized among the Japanese to deal directly with the mainland, and thus eliminate the profit heretofore paid to the Caucasian lumber companies. The total Japanese in the skilled trades number 3,397.

(*d*) In clerical employment, including a steadily increasing number working for nonoriental firms, there are 2,850 men and 1,369 women. The majority of these people are employees of Japanese firms and shops, but the Hawaiian born seek and find positions in all local firms, banks, merchandise houses, and smaller concerns.

(*e*) The professions show the same general trend; i. e., many Japanese practice in all professions, seeking their clientele from their own nationals first, and gradually finding an increasing field from among the other races, or employment by nonoriental organizations. The total in the professions number 821, including priests and ministers, teachers, doctors, nurses, dentists, and lawyers.

16. The Japanese have formed among themselves, to help their economic development, several associations, a few of which are powerful agencies for leading the Japanese community and forming its opinions. The Japanese Chamber of Commerce, like its Caucasian compeer, is a conservative influential business men's association. The Japanese Merchant's Association includes the smaller business men, retailers mostly; and another, called the Eastern Merchants Association, gathers in another group of small business men. There are associations of contractors, bicycle dealers, tea-house keepers, dentists, teachers, barbers, hotel keepers, tailors, and a medical society. There is a labor federation, several clubs, and several eleemosynary and religious organizations, and in the latter category are both Christian and Buddhist associations.

17. The appearance of Hawaii in general is an obvious index to the degree of economic penetration by the Japanese. With sections of Honolulu almost entirely Japanese, blocks of stores operated by them, cheap taxicabs filling the streets, Japanese employed in every vocation, more newspapers in their language than in any other, or all the English speaking papers together, schools and churches maintained by them for their exclusive use, and several industries completely in their hands, the aspect is certainly oriental. The smaller towns and the countryside tell the same story. But the big corporations are still American, the financial control, ownership of the land, the leadership in commerce, finance, and politics are still in the hands of Americans.

POLITICAL.

18. So far the Japanese have not shown any political aspirations, nor are they yet important in local politics. The number registered

as voters in the fall of 1922, prior to the legislative elections, was: Male, 1,014, female 121. Not all of these voted, and there is no way to ascertain whether they all voted alike. Only one Japanese, Hawaiian born, ran for office, a candidate for representative from Kauai, to the Territorial legislature. He was eliminated in the primaries, being badly defeated, and accused the Hawaiian organizations of working against him. His total vote exceeded the total registration of Japanese voters in his district, though he may not have received all the Japanese votes, as some of these nationals did not vote. In the community where the writer resides, a small number of Japanese voters are evenly divided between the two political parties.

19. The Japanese consulate states that there are now 2,700 registered voters of the Japanese race in Hawaii. There has been a belief among some persons that the Japanese deliberately withhold from registering, waiting until they can form a powerful factor in local politics. Such a belief is not based on any reason, however. Of the 58,057 Hawaiian-born Japanese the great majority are still minors; many of the adults can not prove Hawaiian birth, a necessary preliminary to voting; and, like other races, many have little interest in political affairs. The course lately adopted by the Japanese consulate, and leading members of the Japanese community of conciliating the American community includes the policy of participation in political affairs as Americans.

20. The total registration of voters in Hawaii in 1922 was 32,491, and the influence of the Japanese will not be great for many years The class of Japanese resident in the Territory are politically backward, they do not take kindly to women's suffrage, and they are not concentrated in any one district where they might control. Within a decade they might, by voting as a block, hold the balance of power in a hotly contested election. But gains among other nationals exceed, actually and proportionately, the increase of Japanese voters, and there has not been any reason to assume that the latter will vote as a unit.

III. Nationalistic Tendencies.

LOYALTY TO JAPAN.

21. The Japanese consul general at Honolulu is the center of the governmental control and supervision of the Japanese community and is the largest and most important consular office in the Territory. Subagents of this office are located in every hamlet, plantation camp, or town in the islands, and through these agents the consul general is in close touch with his nationals. Considerable routine is handled by the agents, such as reports of births and deaths; applications for passports for picture brides, for relatives to

come to Hawaii, for visits to Japan; and requests for exemptions from military service. From the agents through the consulate general there is a steady flow of money derived from various fees and fines. Usually the agents are the leading men of the small community, and naturally they are themselves whole-heartedly Japanese. The system provides the consul general with a well-working machine for holding his countrymen together.

22. The Japanese show a loyalty to their homeland that exceeds that shown by any other class of immigrants to the United States. How far this loyalty will carry the local Japanese, and through how many generations it will survive, are debatable points. There are many striking illustrations of this loyalty, but there are also several small matters to show that it is weakening, especially among the Hawaiian born. The recent figures of births and deaths of Japanese furnished to the board of health are greater than the same data supplied to the Japanese consulate. Formerly the consulate had more accurate information than the Territory, and this change may indicate a better observance of local law and more indifference to the consular control.

23. The labor unions and some of the Japanese-language schools and newspapers, having differences with the consul general, have shown an independent spirit and expressed their dissent emphatically, a state of affairs very different from former days, when the consul general's word was law to the local Japanese. It is true that these independents sometimes appeal over the head of the consul general to individuals or organizations in Japan. But the fact remains that, together with the strong loyalty to Japan and the patriotic fervor that characterize these people, there is less cohesion and less obedience to official control than formerly, and more factions.

DUAL CITIZENSHIP.

24. The subject of dual citizenship is an important one and a constant source of irritation between Americans and Japanese. Every Japanese is assumed by the Japanese Government to be a subject of Japan, regardless of place of birth. The United States extends the rights and privileges of American citizenship to all of American birth, regardless of race or the allegiance of the parents. A Japanese may therefore be at one and the same time both a Japanese subject and an American citizen. For the enjoyment of the status of the latter proof of birth is all that is required; the obvious evidences of race are all that is necessary to make one a Japanese.

25. The question is bound up with the system of military service in Japan. To forswear allegiance to the Government of Japan it is

necessary for an Hawaiian-born Japanese to make a formal application through the consulate general's office for expatriation papers before or after the age when military service is required of all Japanese subjects—that is, before 17 or after 37. The assumption is that applications made during the military age are simply expedients to escape such service. Those who do not become expatriated, even though they consider themselves Americans and deny the right of the Japanese Government to call them for military service, are served with the usual summons. As might be expected these rules do not apply to females, and they may be expatriated at any time. To date less than 200 Hawaiian-born Japanese have actually been expatriated, out of 58,000. It must be remembered, however, that the native born are mostly very young, and that the Japanese are naturally more conservative regarding their womenfolk, and hesitate even to spend the necessary money for Hawaiian birth certificates for their girls. It is also true that the procedure for obtaining expatriation is not made easy or simple, and only recently have the Japanese begun to apply for such papers.

26. Instances have occurred of Hawaiian-born Japanese, not formerly expatriated, refusing to obey, or even answer the summons from the Japanese Government to report for military service. Disobedience to such orders is usually punished by fines levied upon relatives residing in Japan, and reports of such action have been published in Hawaii. As a rule the Japanese Government is lenient to its nationals residing abroad, and grant exemptions or postponements of military service to those who request them. It is not known how many Hawaiian-born Japanese have actually served out their time in the Japanese military service; but the number is not large.

RELIGION.

27. Religion is one of the strongest pro-Japanese factors among these people. The Shinto belief, with its deification of the Emperor of Japan, and the strongly national character of the Japanese Buddhists, are both constant and influential agencies to hold the Japanese to their homeland. The priests are nearly always trained in Japan, coming to Hawaii imbued with ideas that are antagonistic to the United States.

28. The strongest sect is the West Hongwanji Buddhist, whose bishop is appointed by the Japanese Government. The main temple of this sect is a fine edifice in Honolulu, and there are 35 small temples throughout the islands. The Jodo Shu Buddhists have 17 temples, the Shingon Shu 25, and four smaller sects bring the total Buddhist temples to 94, with 95 priests. In most cases the head priest is appointed by the head of the sect in Japan. The Shintos

have 9 shrines, with 6 priests. No community in the Territory, however small, is without a Buddhist or Shinto temple. Frequently the religious work is assisted by the plantations whose laborers it serves, and the curious anomaly is presented of American, presumably Christian, capitalists encouraging heathen faiths.

JAPANESE LANGUAGE SCHOOL.

29. The Japanese language schools are closely associated with the religious sects, most of them being maintained by the temples, and priests being frequently also teachers. Within the past three years the operation of the schools has been a matter of discussion by the entire Territory. The legislature of 1921 had before it a drastic law for the control of the language schools, aimed primarily at the Japanese. This legislature did pass an act that placed all language schools under the territorial department of public instruction, and required the teachers to be licensed after passing an examination in the English language, and American history and civics. The act also required the revision of the text books used, so that the subject matter would be American in character.

30. In carrying out the above provision a committee of Americans and Japanese were appointed, to revise the textbooks, and this committee's report recommended certain rules which were adopted by the department of public instruction and approved by the governor of the Territory. Incidentally the committee postponed the textbook revision. The suggested rules required all children to complete two years in an English speaking school before being allowed to enroll in a foreign language school. A bitter controversy was precipitated between the Japanese and Americans. The conservative element of the former, led by the consul general, advocated acceptance of and compliance with the new regulations. A small faction among the Japanese organized a few schools in opposition to the rules, hired American lawyers, and carried the case to the local courts. Some Japanese newspapers suggested making the controversy a national matter by propaganda in Japan. On the whole, the majority of the Japanese were prepared to abide by the regulations, however reluctantly.

31. The legislature of 1923 reenforced the previous act and the regulations promulgated under it, and added on a special tax of $1 per child enrolled in foreign language schools, to pay for the expenses of supervision. Shortly afterwards the United States Supreme Court rendered the decision that the foreign language school laws of Nebraska, Ohio, and other States was illegal. This decision encouraged the Japanese schools that were in opposition to

the local law, and several more joined them as parties to the suit, making a total of 85.

32. The following figures show the extent of these Japanese schools in the Territory. Honolulu: 4 high schools—2 boys, 2 girls; 12 primary and grammar schools. Oahu, outside of Honolulu, 21; Maui, 1 high school at Lahaina, 21 others; Hawaii, 2 high schools at Hilo, 1 for boys, and 1 for girls, and 49 others; Kauai, 20; Molokai, 1. The total is 7 high schools and 124 schools of primary and grammar grades, employing 217 teachers.

33. The strike of the plantation laborers in 1920 convinced the American leaders of Hawaii that the Japanese were encompassing the conquest of Hawaii through economic means, along nationalistic lines, and first drew attention to the schools as instruments for offsetting the Americanization of the Hawaii-born Japanese. Hence the different attempts since to control all foreign language schools, aimed primarily at the Japanese. The subject has been discussed in all its phases in varying degrees of bitterness since 1921; but the force of American public opinion and the conciliatory attitude of leading Japanese are gradually swinging the Japanese into line with the Territorial law and regulations.

JAPANESE LANGUAGE PRESS.

34. The language press is a powerful agency for influencing the Japanese community. The majority of the adults among these people are unable to read English, and the Japanese press is their only means of keeping informed on current events. On the whole, the Japanese newspapers are pro-Japanese, and catering to laborers mostly, are prolabor. There are a few high-class sheets, a few rabidly radical anti-American sheets, and the greater number are of a rather negative character. News from Japan is featured, and the larger papers have direct connections with Japanese news services, and receive dispatches promptly of all important matters occurring there.

35. The best paper is the Nippu Jiji, of Honolulu, which within the past two years started publishing its front page in English. It has a daily circulation of 9,000, and expresses the conservative, official viewpoint on local matters. The Hawaii Hochi Sha, also published at Honolulu, is the voice of the malcontents, and has taken the lead in agitating against the laws regulating the foreign-language schools. It has a circulation of 7,000, and frequently publishes articles decidedly anti-American in character. The Hawaii Shinpo Sha, also of Honolulu, is the official organ of the Japanese Labor Federation. These three papers stand out from the rest as distinctive. The Yoyen Jiho, of Koloa, Kauai, is rabidly

prolabor, with policies markedly I. W. W., but not particularly nationalistic. There are a total of 16 Japanese language papers published in the Territory. The circulation of the Honolulu Star-Bulletin, the afternoon daily in English, is 14,000, which gives a means of comparison.

36. Prior to 1921 the foreign-language press was unchecked, and rarely read by others than its own nationals. The legislature of that year passed a press control act, as well as a school act. The principal feature of the new law required that a copy of every issue of all publications in foreign languages shall be filed with the attorney general of the Territory. Translations are often made of leading articles and editorials. The English-language papers reprint significant articles occasionally. Thus the American community are informed as to what the Japanese are publishing, and the tendency is for the latter to tone down their utterances, to prevent offending the Americans or causing criticism of their opinions.

IV. American Tendencies.

SCHOOLS.

37. The strongest single Americanization influence is undoubtedly the public schools. The instruction, the sports, the associations with children of other races, all tends to lessen the Japanese influence of the home. For many years the Hawaiian public schools have studied the problem of training the oriental children to be American, and have included in their curriculum patriotic exercises and subjects. Though an uphill struggle with 21,348 Japanese out of 44,393, and the others largely of non-American parentage, there is no question that the public schools have contributed greatly toward the desired end. The daily flag raising, singing of patriotic songs, and study of American history, for a period covering the most formative years of a child's life, leave a mark that can not be easily overcome. Young Japanese habitually use English in speaking among themselves, and use Japanese only in conversation with their elders. They also read English newspapers by preference.

38. The Reserve Officers' Training Corps includes four of the leading schools of Honolulu, and among the younger men enrolled in this student reserve are many Japanese, who all acquit themselves well. In sports and the nonacademic side of scholastic life, especially in the higher schools, the Japanese play a creditable part as Americans. Many of their girls take the normal training course, and become teachers in the public schools. The boys are just

beginning to appear at the University of Hawaii for higher education.

39. The primary service of the public schools is the universal teaching of English. Other influences can work from that basis. As the Hawaiian-born Japanese, speaking English, send their children through the public schools, the use of Japanese will no longer be necessary in the home, and the present retarding effect of a home life ruled by elders ignorant of English will cease.

CHRISTIANITY.

40. The Christian denominations of Hawaii maintain missions among the Japanese and support various associations of a semireligious character. In addition to those actually converted to Christianity, each one of these missions and associations reach a small body of Japanese, who are inculcated in the principles of the Christian faith, and of American standards and viewpoints. There are a total of 35 churches and 31 pastors and evangelists devoted to work among the Japanese. Some of the pastors are of their nationality. A splendid Y. M. C. A. in Honolulu is for the use of Chinese and Japanese alone. In general, though the religious success can not be called great, the dissemination of Christian and American ideals throughout the Japanese community is increasing, and the younger generation find less to hold them to the faith of their parents.

COMMERCIAL.

41. In business the Japanese find themselves more and more required to handle American products. The young Japanese are trained in American schools for commercial pursuits, and find employment in American firms. The laws of the country, the commercial and financial control by Americans, the requirements of the Territory's trade with America, gradually but steadily enforces the Americanization of the Japanese business men. Several joint enterprises between Caucasian and Japanese capital further establishes American systems among the latter. The whole tendency of the commercial life of the Territory is to make the Japanese do business as Americans, abide by American standards, deal in American products, and live up to American law.

POLITICAL.

42. The limited part taken by the Japanese in local politics as yet offers no fair criterion of the further development. Both political parties have made tentative approaches to attract the Japanese vote, and as this vote increases these advances will be more urgent.

The inclusion of the Japanese in local politics, serving on precinct committees, occasionally running for office, can not help but assist in their education as Americans. That they will divide between the two parties is most probable. That they will vote across party lines for candidates of their own race is also probable. All the other races of Hawaii do so, and the racial units of American political life is well understood and accepted.

GENERAL.

43. The greatest influence for Americanizing the Japanese in Hawaii is the fact of existence in a community fundamentally American. The young generation insensibly absorb the American viewpoint. They wear the clothing of the United States, discarding picturesque kimono and sandals; adopt baseball and other sports enthusiastically, to the exclusion of Japanese games; speak and read English; more and more eat American foodstuffs; give social parties like Americans; and steadily, if slowly, find themselves alienated from the viewpoint of their elders. Many specific illustrations of this change could be given, small, perhaps trivial, in themselves, but forming in the aggregate a sure indication of the Americanization of at least the Hawaiian-born Japanese. The Society of American Citizens of Japanese Ancestry, an association of young Japanese who formally swear allegiance to the United States, and eschew all things Japanese, is an example of the new tendencies. This society is active and apparently sincere in its tenets and practices. Despite the obstacles imposed by many agencies, originating in the conservative and loyally Japanese older generation, the young people become more and more the product of their environment in which American standards and ideals still obtain.

V. Future.

PROBABLE RELATIVE NUMBERS.

44. The best analysis of the Japanese vital statistics leads to the following conclusion, quoted from Prof. Romanzo Adams's articles:

> The Japanese will continue to increase in number, but at a diminishing rate. They will be a diminishing factor in Hawaii. They constituted over 42 per cent of the population in 1920. By 1930 they will be less than 40 per cent, and then their percentage will fall more rapidly until they constitute not more than 25 or 30 per cent of the total population.

45. The above conclusion is predicated on the assumption that the present policy in regard to Japanese immigration will continue. It also accepts as premises:

That a considerable number of Hawaiian born will return to Japan permanently.

That a larger number will move to the mainland of America.

That the birth rate will decrease materially and relatively quicker than that of the part Hawaiians and Portuguese.

46. Although prophesies are proverbially of doubtful value, and the subject under consideration comprises many uncertain factors, yet the best evidence supports the premises and conclusion above. Other circumstances supplement this conclusion, for one, the increasing number of nonorientals settling in Hawaii. It is believed, therefore, that the Japanese will from now on become relatively less dominant.

ASSIMILATION.

47. Regarding the assimilation of the Japanese along other than racial lines—in other words, their Americanization—there is no doubt as to the result. It is merely a question of time when the Hawaiian-born Japanese will be as thoroughly American as any other racial element of the United States. The Japanese are slower to adopt American standards and customs than many other races, but no slower than the Chinese and some European races. Their homeland keeps closely in touch with them and exacts a degree of loyalty not consistent with American ideas; but so do some European nations, notably Italy. The racial bar is higher between Anglo-Saxon and Japanese than between Anglo-Saxon and other Caucasians; but not as high as between Caucasian and Negro. Their presence in Hawaii in numbers beyond the capacity of the community to digest has been a deterrent to the progress of Americanization; but, with the present day realization that there is a problem greater progress will be made within the next few years than all the years before.

48. The question of racial assimilation is one than can hardly be discused without engendering racial prejudices and evoking heated generalizations. The Japanese show a strong antipathy to miscegenation, but whether this can survive the environment at influences working on the new generation is another question. When first brought here as laborers few of their womenkind came with them, and there were several intermarriages between Japanese men and Hawaiian women. The Chinese, who intermarried with the Hawaiians much more extensively, brought even fewer of their own women folks to Hawaii, and their partial amalgamation with Hawaiian blood took place after years of residence in the islands. The importation of Japanese women in numbers, and the larger numbers of their race here, forming separate communities, helped to retard assimilation. When the relative number of the Japanese decreases there will probably be more intermarriages.

49. It is believed that history proves that racial assimilation is inevitable between races living in the same community, however

slow such a process may sometimes be, and however much the result may be decried. Within the past three years there have been more intermarriages between Caucasian men and Japanese women than the preceding decade can show. Among the men were two members of the United States Marine Corps and one United States Army noncommissioned officer. There have been a few cases of Japanese men marrying Caucasian women. Although the evidences of miscegenation are as yet few the racial assimilation of the Japanese will undoubtedly continue at an increasing rate. The Americanization of the young Japanese will remove a great part of the prejudice existing, and the increase of intermarriages will provide a more tolerant public opinion.

50. It is not believed that any race can resist for long the tremendous pressure of environment, and as long as Hawaii remains American all the forces of the American civilization will so mold and constrain the new generations that they will become American. How the result will compare with Americans of other racial stock is another matter.

HAWAII'S NEEDS.

51. The first necessity to hasten the solution of the local problem is to relieve Hawaii of the too large numbers of Japanese here. The measures include the reduction of immigration of Japanese, especially picture brides, to the lowest possible point; and the smoothing of the path to the mainland for the Hawaiian born. The greater area and population of the mainland could readily absorb a few thousands of Hawaii's excess without ill effects.

52. The elimination of dual citizenship is another measure that will help clarify the situation in Hawaii. It can be done away with either by the United States requiring the formal expatriation of Japanese before granting them American citizenship or by Japan accepting the exercises of American rights by its nationals as sufficient evidence of the change in allegiance.

53. These matters, immigration, emigration to the mainland, and dual citizenship, are subjects for the National Government to take up, and are beyond the authority of the Territorial administration. Locally, the assistance, by every means possible, of nonoriental elements of the population, and the encouragement of Caucasian immigrants is believed to be the most important means of balancing the Japanese domination. Further than this the careful scrutiny of all Japanese claiming citizenship, and the continued supervision of the foreign-language schools and press, will emphasize the community's demand that the Japanese must show positively their American character.

VI. Military Aspects.

54. The internal situation resolves itself to the following:

(*a*) A little less than half the population of Hawaii is Japanese. Of this number over half are alien born, mostly adults, probably loyal to Japan. The Japanese males in 1920, numbered 18,266 between 20 to 39 years, and 19,053 over 40 years: 25,309 under 20 years of age, possibly 30,000 would represent the effective male population.

(*b*) The Japanese community would be a menace in case of war with Japan, that must be contended with, and overcome.

(*c*) The possibility of the local Japanese rendering aid or supplying to their forces must be considered.

55. There are no grounds for believing that the Japanese in Hawaii are in any manner organized for war. Many of the older men are reservists, and probably some of the younger men have served in Japan. Young Japanese are now receiving military training in the R. O. T. C., and their loyalty to the United States might be questioned. It is highly improbable that any supplies are available for equipping the Japanese community. The country is too small to permit of secret organizations or hidden caches of stores, and none such have ever been discovered. Undoubtedly there are among the Japanese many agents who make full reports to Japan on conditions here, working mostly through the consul general. In addition occasionally intelligence agents cover the military phases of the Territory. These are assumptions warranted by the circumstances. Further than that it would be pure conjecture.

56. Assuming them a civilian noncombatant population of doubtful loyalty to the United States, the problem is simplified. The internment of pro-Japanese leaders, the guarding against espionage, the close guard on military works, and on public works of a vulnerable character, comprise the most of the problem. The fishing sampans should be commandeered and the Japanese employed on the interisland steamers dismissed.

SPAIN.

MUTINOUS INCIDENT AT MALAGA.

29 August, 1923.

In the presence of a large crowd, which had gathered at Malaga yesterday to witness the departure of the troopship *Barcelo* for Morocco, some twelve hundred troops mutinied and refused to embark.

One of the officers in charge was shot through the heart and four of the men were killed. The mutineers started firing wildly and caused a general panic among the crowd of spectators. Some of the soldiers finally ran into the town, where several of them are still in hiding. The majority—about a thousand—were eventually brought to their senses by the garrison and went on board the ship, which sailed for Melilla. There have been rumors that the mutiny was part of a concerted movement throughout Spain, but there is no foundation for them.

Twenty thousand men are leaving Spain for Morocco. There is talk of fresh operations on a large scale.

SPAIN.

NOTES ON MILITARY SITUATION IN MOROCCO.

September, 1923.

The following information regarding the Moroccan situation comes from an authoritative source:

Abd-el-Krim, the Moorish rebel leader, has between 75,000 and 76,000 men well armed, with plenty of ammunition. The Moors hold a strong position in the hills opposite the Spanish line of blockhouses and are anxious to have the Spanish attack, for they are confident that they can annihilate such an attack.

It is said on good authority that the morale is very low in the Spanish forces and that in the last two months more than 200 Spanish soldiers have deserted, selling their arms and ammunition to the Moors for money with which to make their escape. Officers are absent a great deal of the time from outposts, leaving their men exposed to the harassing fire of Moroccan sharpshooters, with little or no food. The officers, it is reported in Tangier, withhold the greater part of the pay of the men who, to gain money and food, sell bandoliers of ammunition to the Moors opposite them, or in towns behind the Spanish lines.

Ammunition, it is said, was never so plentiful and so cheap as at the present time. A Mauser cartridge, which two months ago cost a shilling, can be purchased for 4 pence in almost any quantity in practically every town in Morocco. This ammunition, it is claimed, comes from France and other European countries, and from the source mentioned in the preceding paragraph.

Spanish pretensions to the port of Tangier have been obviously weakened by her failure to pacify the Moroccan tribesmen. The Spanish Government had hoped to strengthen its position during the postponement of the Tangier negotiations, but thus far has met with no success.

The arrival of an Italian destroyer at Tangier, landing some dozen or more carabinieri for the protection of Italian interests there, gave rise to reports that Italy intends to intervene in the Tangier negotiations when that question is again taken up, because she feels she has interests at stake in that part of northern Africa. It is held by the

interested powers that the Rome Government can not demand, legitimately, political rights and concessions in Tangier solely because Italy happens to be a power in the Mediterranean. The Italian Government has stated semiofficially that the small force was sent to Tangier merely for the purpose of reinforcing the consular guards who lately had not been respected by the Moroccan police.

TURKEY.

CURRENT OPINION IN COMMISSIONED RANKS CONCERNING REVIVAL OF NAVY.

August, 1923.

Recently four or five officers of the Turkish Navy have been interviewed in order to determine their opinion on the prospects for the Turkish Navy. One of these officers is a commander, another a captain, and others of subordinate ranks. The general tenor of their conversation is very pessimistic, both from personal and official reasons—personal, because of the small amount of pay which they receive (the Turkish captain on the active list mentioned above receiving 60 Turkish paper pounds per month, or an equivalent of about $35), and the official reason being that they are discouraged at the prospect of the renovation of the ships of the Turkish Navy.

There is not at present an effective ship of any class, with the exception of two or three torpedo boats. The main item of interest in this fleet is the ex-German battle cruiser *Goeben*. The captain mentioned above until recently was in command of this ship, but was detached at his own request for the personal and official reasons given above, and he is now without a command. He stated that no attempt at renovation had been made or was being made on any ships of the Turkish Navy, and that it was very doubtful what ships, if any, would be renovated. The *Goeben*, he states, is in such a miserable condition as regards her hull and interior fittings that it may be utterly impossible to recondition her. Shortly before the close of the war she was damaged by a mine explosion which flooded some of her compartments and which weakened her structure. In addition, she has lain uncared for for a period of four years and a half, and all of her interior fittings have been stripped out or ruined. After the evacuation of the allied forces the Turks expect to appoint a board of survey to examine her and to estimate on the amount of time and money required for reconditioning her. The captain states that even if the report of this board should be favorable to reconditioning, it is very doubtful if the Government will have the money to spend on this unless they get a loan from some foreign country.

If the *Goeben* is thought to warrant reconditioning, and if the money for this can be obtained, she will be taken to France or Italy for this work. The Turks are very incensed against Armstrong-Vickers because of their general attitude out here, and the Turks state that not a bit of the repair work to be done will be given to this English concern. Some of the destroyers and torpedo craft are expected to be reconditioned soon after the evacuation of the Allies. These small craft have had skeleton crews on board continually and by this means have been able to keep up the small repairs. These small ships will be reconditioned at the Turkish dockyard at Stenia, which is about 8 miles up the Bosphorus from Constantinople. This dockyard possesses a machine shop and a floating dock capable of taking about 6,000 tons.

Altogether these officers were very pessimistic about the Turkish Navy, and they were very dubious as to whether anything but minor repairs on the small ships would be undertaken because of lack of money.

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Officer.	Initials.	Date received.	Date forwarded.
CAPTAIN			
EXECUTIVE OFFICER			
FIRST LIEUTENANT			
NAVIGATION OFFICER			
GUNNERY OFFICER			
COMMUNICATION OFFICER			
ENGINEER OFFICER			
MEDICAL OFFICER			
SUPPLY OFFICER			
FIRST DIVISION OFFICER			
SECOND DIVISION OFFICER			
THIRD DIVISION OFFICER			
FOURTH DIVISION OFFICER			
FIFTH DIVISION OFFICER			
MARINE OFFICER			

The material for the Bulletin is largely derived from service sources and its interest and value are correspondingly dependent upon the number and character of the reports received by the Office of Naval Intelligence from our own officers. In this connection the observations of officers afloat are of great value, particularly if the reports rendered are drawn up in accordance with existing intelligence instructions.

While political and economic information is undoubtedly of much use, the collection of military information should come first in the intelligence work of cruising ships.

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GREAT BRITAIN.

ADMIRALTY EXPERIMENTAL STATION, WEST DRAYTON.

September, 1923.

Before the war the Admiralty did not have an experimental station and depended on the large shipbuilding companies and other large commercial manufacturing companies for all their research and development work. After their entrance into the war, and when a committee was appointed to handle inventions, Lord Fisher being head of the committee, they took over the laboratory of one of the London colleges. After the war it was realized that the commercial concerns would probably not have sufficient business to warrant them in carrying on extensive experiments that would entail considerable financial outlay, so the Admiralty decided to handle their own research work.

As a consequence they took over their present plant at West Drayton. This plant was originally a chemical manufacturing one, and was later enlarged by a company developing hydraulic transmission.

While the plant is not particularly adapted to a Government experimental station the Admiralty have made numerous improvements and added to the buildings and other equipment. A large part of the equipment has been taken from various naval craft, and is apparently being added to gradually.

The plant is in the charge of an engineer commander of the Royal Navy whose duties are administrative as well as technical. The personnel consists of a clerical force of 3, a drafting force of 10, 2 test engineers, 19 mechanics, and about 13 laborers. There is also connected with the plant a small electrical section, which comes under the engineer commander for administrative purposes only, all reports on electrical tests being submitted direct to the head of the electrical division of the Admiralty.

The station has practically no modern equipment, and aside from the electrical section, which principally makes routine tests and does not handle original research work, it is chiefly concerned with developments on Diesel engines.

They have four small Diesel engines, one of which is an old compound Diesel, and these are used principally for testing the various heavy fuel oils and also commercial lubricating oils (generally compounded ones) which are claimed to possess special characteristics. The largest one of these engines is rated at 30 horsepower.

They also have three single-cylinder, short-stroke, trunk-type Diesels, the cylinder diameter being about 18 inches. There is a fourth single-cylinder Diesel of the Doxford opposed piston type that was stated to be the original Doxford experimental engine. Various tests are run on these engines, particularly for high compression and to try out aluminum alloy pistons. Mean effective pressures of 150 pounds per square inch have been obtained; the maximum piston speed on test has been about 1,300 feet per minute; the composition of the pistons that have given the most satisfactory results so far is 92 per cent aluminum, 4 per cent to 6 per cent copper, 1 per cent iron, and 1 per cent impurities. The specifications require the absence of lead and zinc. They have considerable difficulty in getting sound castings of this mixture.

The station also has referred to it for investigation various difficulties encountered in materials in the fleet, and for this work they have two metallurgists.

The electrical section has not been concerned, up to the present, with other than routine tests, such as the value of insulating materials, fuses, switches, and the durability of lamps under seagoing conditions.

It is also understood that the Admiralty are developing a compound Diesel engine, but that it has not yet passed the design stage.

As a part of the stand-by equipment to handle peak loads, they have installed a large number of Edison storage battery cells which were removed from one of the earlier British submarines.

GREAT BRITAIN.

ALTERATION TO H. M. S. "TIGER."

September, 1923.

The *Tiger* has been at the Rosyth Dockyard since March, 1922, and has been undergoing "large repairs," the estimated cost of which will aggregate £162,927. Extensive repairs were required to her electrical wiring, the original installation not being up to the usual standard.

The *Tiger* is also being made ready as gunnery training vessel in place of the *King George V*, now temporarily assigned to that duty. During the refit the *Tiger* is being equipped with many of the latest devices preparatory for such gunnery training.

It was definitely stated that the *Tiger* is not being converted to burn oil fuel only, but will continue to be equipped to burn both coal and oil. The vessel has a fuel capacity of 2,800 tons of coal and

3,480 tons of oil, but the total amount of fuel to be carried is not to exceed 4,000 tons.

The refit of the *Tiger* is expected to be completed in December, and the crew for the vessel is now in the process of being assembled.

GREAT BRITAIN.

ANTIAIRCRAFT FIRE CONTROL.

September, 1923.

It has been learned that the British are making strenuous efforts to improve the antiaircraft installation aboard ship and the methods of operation of this installation. This improvement is mainly along the lines of—

(*a*) Determing the initial range and track of the aircraft.

(*b*) Supplying accurate firing ranges to guns quickly.

(*c*) Getting guns trained on target quickly.

It is stated that at least two 9-foot-base range finders of special design are being supplied to each capital ship solely for antiaircraft use. It is further learned that a special antiaircraft fire-control system capable of extreme rapid operation is being developed. This apparatus actually sets the gun sights.

The informant further stated that the ultimate intent of the development, now well under way, would include automatic training and elevation of the guns from the central control.

GREAT BRITAIN.

NEW DESTROYERS "WHITEHALL" AND "SHIKARI."

September, 1923.

The *Whitehall* and *Shikari*, nearing completion at the Chatham Dockyard are the last of the destroyers, of which there were well over 300, ordered from British firms during the war. At the time of the armistice there were 97 destroyers in hand, of which the contracts for 40 were cancelled, and work on 38 others was stopped. Gradually, as the limited amount of money available allowed, progress was resumed on these vessels, which were too far advanced to be scrapped, and by the end of the financial year on March 31 next all will have been completed. The *Shikari* and *Whitehall* are due to be ready for service in January and February next, respectively.

The *Shikari* is of the Admiralty "S" type, of 1,075 tons, 27,000 horsepower, 36 knots speed, and an armament of three 4-inch and

one 2-pounder guns, and two double torpedo tubes. The *Whitehall* is of the larger Admiralty "W" type, of 1,325 tons, 27,000 horsepower, 34 knots speed, and armed with four 4.7-inch and two 2-pounder guns and two triple torpedo tubes.

The *Shikari* was ordered in April, 1917, and the *Whitehall* was ordered January, 1918, from the firms of Doxford & Swan, Hunter; they were towed to Chatham Dockyard for completion about two and a half years ago.

GREAT BRITAIN.

PORT EDGAR DESTROYER BASE.

September, 1923.

The Port Edgar Destroyer Base is situated on the south side of the Firth of Forth, nearly opposite the Rosyth Dockyard. It is a separate establishment under the command of Capt. A. J. B. Stirling, C. B., under the commanding officer Coast of Scotland (who is now also admiral superintendent, Rosyth Dockyard).

The Port Edgar Destroyer Base is located just to the west of the Firth Railway bridge; extends nearly a mile along the shore, but has a maximum depth of only a few hundred feet. Provision is made for mooring at piers inside the breakwaters of 60 destroyers. There is unlimited anchorage space for destroyers in the river, and a large number were habitually moored there to buoys during the war.

At present there are three flotillas of nine vessels each, including destroyer leader, based on Port Edgar. Only seven of these vessels were present at Port Edgar when the place was visited—two were under repair at Rosyth Dockyard and the others were absent, engaged in operations.

The vessels at Port Edgar are assigned three-fifths of full complement. They have two periods of operations of one week each during each year. The vessels are maintained in condition for active service at 48 hours' notice. During the week periods of operations the three-fifths crews are not increased. The operations at night are limited to one night. During these operations the personnel have shown no evidence of lack of training and the vessels no defects in material.

The Port Edgar Naval Base was established to meet the situation that confronted the British in the North Sea during the World War. The facilities thus created are now utilized to maintain their reserve flotillas in efficient condition for service at short notice. It is the only British destroyer base of its kind, and an attempt has been

made to make it distinctive. No attempt is made to carry on research work or even the training conducted at Whale Island, but the equipment for continuing the instruction and training of the Reserve personnel is very complete. This is particularly so in regard to a large lecture hall, and a model room which appears to offer facilities for carrying on much of the necessary training and instruction of the personnel assigned to destroyers in reserve. As in other British naval institutions for education and training, there are a great number of large scale, colored plans showing cross sections of various machinery, torpedoes, etc., as well as guns, torpedo tubes, and torpedoes.

In the lecture hall there were installed a moving-picture machine and also a photographic machine, which are used to show up defects in operation, torpedo firing, etc. The Port Edgar Base is also a repair station for destroyer machinery and equipment other than that required at a dockyard. Back of the station on a hill are several large fuel-oil tanks. Another important part of the equipment is a very large distilling plant; only distilled water is allowed to be used in the boilers of destroyers. The other equipment at Port Edgar includes very complete facilities for the recreation and amusement of the Reserve flotilla personnel.

The shore establishment at Port Edgar consists of about 300. The officer personnel is shown in the British Navy List under the *Columbine*. There are only about 12 civilians at the station; this was commented on most favorably.

There is no dock at Port Edgar; the Port Edgar destroyers are docked at Rosyth once a year.

There are also maintained at Port Edgar two "emergency" destroyers, ready for immediate service; at present they are the *Shamrock* and *Turbulent*. Also there was the destroyer *Whirlwind*, belonging to an active flotilla of the fleet, which had not been able to leave recently with the First Destroyer Flotilla owing to machinery trouble.

GREAT BRITAIN.

ROSYTH DOCKYARD.

September, 1923.

The Rosyth Dockyard has become stabilized according to the plans for its operation during peace. The principal service that it renders to the fleet is the docking and repairs of destroyers based on Port Edgar, and it is guaranteed the docking of six capital ships; their refit and repairs may be made at other dockyards.

There are now 2,500 civilian employees, which number it is intended to maintain. The erection of excellent housing accommodations for a part of these employees at Rosyth Garden City has continued. A considerable part of them live in Dunfermline, 5 miles distant. The reduction of the dockyard force from 7,000 to 2,500 has not affected Dunfermline and other towns close by, as the workmen, who came from Edinburgh and other points more or less distant, left the employ of the dockyard or moved to some one of these near-by towns when payment of transportation from Edinburgh was discontinued.

There are the following vessels at the dockyard:

Battleship *Royal Sovereign*, in full commission, in Dry Dock No. 2 for routine docking.

Battle cruiser *Tiger*, out of commission, undergoing "large repairs."

Battle cruiser *Lion*, in main basin.

Submarine *K–16*, undergoing preparation for sale.

Destroyer *Venturous* and destroyer *Valentine*, in reserve commission, under repair.

Royal fleet auxiliaries (oilers) *Cherryleaf*, *Pearleaf*, *Appleleaf*, *Plumleaf*, and *Orangeleaf*, laid up with a few caretakers to keep machinery in good order; 8 tugs of "Saint" class for sale; 6 other tugs; 2 mooring lighters.

There were also in the main basin the battleship *Agincourt* and battle cruisers *Princess Royal* and *New Zealand*, which have been sold to the Rosyth Shipbreaking Co., and are being broken up at the dockyard. About 600 civilians, most of whom were formerly employed in the dockyard, are engaged in this work. The breaking up of the *New Zealand* appears to be about half completed; the *Agincourt* to a less extent, while the process of breaking up the *Princess Royal* is not very far advanced. The number of men with the facilities available will enable the breaking up to be completed within 18 months after the ratification of the treaty.

The battleship *Sutlej* is moored at a buoy off the dockyard, being the only vessel in the stream. The *Sutlej* has been sold to Ward & Co., shipbreakers, and is awaiting their completion of work of the same kind which they have in hand now.

The battleships *Dreadnought* and *Magnificent* are being broken up at Inverkeithing.

The boom defense depot, *Granton*, has been abandoned, and the transfer of personnel and material to the Rosyth Dockyard was completed September 17, 1923.

The officer personnel of Roysth are shown on pages 738 and 1851 of the Monthly Navy List of September, 1923, under the command of commanding officer, coast of Scotland, who is also now admiral superintendent, Rosyth Dockyard.

JAPAN.

ESTIMATE OF THE STRATEGICAL SITUATION.

October 19, 1923.

[Prepared by a committee at the Army War College.]

I. Military Aspect of Geographical Situation of the State and Its Physical Geography.

A. STRATEGICAL ASPECT OF THE GEOGRAPHIC SITUATION.

Japan occupies the northwest portion of the Pacific Ocean. This position gives her strategical control of that area and the eastern portion of the Asiatic and China coast adjacent thereto. As the United States, Great Britain, France, Holland, Russia, and China have possessions contiguous to this area they may be considered possible enemy states. Russia and China are Japan's natural allies; she has no allies at present. Japan's dependencies are scattered over such a wide area, it is difficult for her to protect them all at one and the same time. The source of Japan's vital imports are across the sea over routes open to attack.

B. PHYSICAL GEOGRAPHY.

(1) The Japanese Empire extends over the Pacific Ocean north and south from Kamschatka to the Equator, east and west from the meridian of 175° east longitude to the shores of Asia and China. It consists of Japan proper, colonies, leased territory, dependencies, and mandate islands. In all, some 3,000 islands, only 7 of which are of any significance. Her land area is 260,738 miles.

(2) *Frontiers and coast lines.*—Japan's only frontier of any importance is the Korean frontier along the Yalu and Fume Rivers and the Everwhite Mountains. Her coast lines surround the rest of her Empire.

(3) *Topography.*—Japan is one of the most irregular countries in the world; seven-eighths of her total land area consists of either mountains or small intervening valleys. She has no other topographic features of great military significance.

(4) *Climate, physical disturbances, and sanitation.*—The climate of Japan varies from frigid to torrid. Typhoons are violent, and heavy fogs are frequent. No month of the year is free from rain; the summer months are the wettest. Physical disturbances are frequent and destructive. Japan is subject to epidemics of smallpox, cholera, plague, grippe, and dysentery; tuberculosis, trachoma, and genital diseases are prevalent.

C. STRATEGICAL ASPECT OF PHYSICAL GEOGRAPHY.

(1) *Harbors and ports.*—Japan's important harbors and ports are along the south coast of her main islands; they are ample for her military and economic needs and so located as to be of great strategical value to her.

(2) *Location of important agricultural, industrial, and mining areas with respect to frontiers.*—Except for Korea, all of these areas lie on or adjacent to Japan's coast lines. Since Japan depends upon the sea for her vital imports, it may be said that her vital areas lie beyond her frontiers, i. e., on the sea and in China and Manchuria with their railways.

(3) *Points on the coast at which expeditions could land with least difficulty.*—Owing to the rough nature of the Japanese coasts and the manner in which they are defended, there are practically no favorable points at which a landing could be made on her main island.

(4) *Natural routes of invasion from neighboring states and the defensive features found along these lines.*—The only way that Japan can be invaded is by water or across her Korean frontier. The mountains and rivers forming this frontier are natural military obstacles.

(5) *Natural routes for Japan to follow in invading neighboring states, and the natural obstacles that would be encountered.*—For China: (*a*) Through Taku to Peking; (*b*) up the Yangtse River to Hankow. No serious military obstacles would be encountered on either route. For Russia: Through Vladivostok, thence along railway to the interior. Natural military obstacles to be encountered, Amur River and Vanda Mountains.

D. POLITICO-MILITARY ASPECT OF THE GEOGRAPHIC SITUATION OF THE STATE.

Japan's geographic situation has undoubtedly caused her statesmen to insist at all times upon her military, political, and economic interests being recognized by all nations as paramount in the Far East. It has also caused her to be prepared at all times to insist upon these rights. To meet these requirements she needs a strong navy as a first line of defense and a small army capable of rapid expansion.

E. CONCLUSIONS.

(1) That owing to her geographic and strategical position, Japan stands to-day well nigh impregnable to direct attack.

(2) That owing to her geographic position, Japan dominates all sea routes to Asia north and east of the Philippine Islands.

(3) That to wage a war requiring her maximum effort, Japan must keep her sea routes open to her sources of vital imports.

(4) That owing to the disperson of her territory over so large an area it would be difficult for Japan to protect it all at one and the same time.

(5) That in case of war between Japan and the United States, Japan would be able to attack Guam and the Philippines before they could be reenforced from the homeland.

II. Political Situation.

A. INTERNAL CONDITIONS.

1. *National pyschology.*—(*a*) *Origin.*—The Japanese are a mixture of Malay and Mongol (not Chinese) stocks, with other minor elements which are negligible.

(*b*) *Homogeneity.*—They are a distinctly homogeneous people with a strong sense of national unity and national solidarity.

(*c*) *Military qualities.*—Their distinctive military qualities are national pride, loyalty to their leaders, self-sacrifice for their country, and strict obedience to authority. The principal adverse qualities are a lack of originality and a lack of initiative.

(*d*) *Characteristics.*—Nationally, Japan is far-sighted, but opportunistic; aggressive, but politic; conscienceless, determined, and with a vast ambition. The Japanese mind is essentially a group mind. Individually the Japanese are generally conceited, sensitive, emotional, self-restrained until angered, and then with little self-control; revengeful, tricky, imitative, clever, steady in success, but panicky in adversity.

(*e*) *Solidarity, endurance, and resourcefulness in war.*—Through official education the people would be solidly behind the Government in war. This solidarity would only be shaken by continued reverses, which would probably break the morale of the nation and lead to internal dissension. The keynote of Japanese organization is regulation and consultation. The Japanese mind requires consultation and the support of its fellows in all emergencies. There is not present the inventive resourcefulness for the development of substitutes, the invention of new agencies, nor the quick adaptation of such as may be developed against them.

(*f*) *Subordination to the common good.*—Individual interests would be subordinated to the good of the state in war time by all classes.

2. *Government.*—(*a*) *Form.*—The Government is a constitutional monarchy in form, but is actually an autocratic bureaucracy.

(*b*) *System.*—The Emperor possesses within himself the entire sovereignty of the state. He makes war or peace and concludes treaties. He granted the constitution to the people and may suspend it at will. He may veto all laws and may dissolve the Lower House of the Diet. He determines the organization, standing, and salary of the army, the navy, and the administrative bureaus, without reference to the Diet. The constitution can only be amended upon his initiative.

The cabinet consists of the prime minister and 10 other ministers of state. They are appointed by the Emperor and are not necessarily of any political party, but the prime minister is selected from amongst men known to be acceptable to the majority of the Diet. The other ministers are appointed upon the prime minister's recommendation, but they are directly responsible to the Emperor and report to him in person. The group spirit of Japan has forced the cabinet as a whole to accept the responsibility for all the acts of any one of the ministers, although under the constitution they are individually responsible for such acts. The ministers of war and of marine must be officers of the army and navy, respectively.

The chiefs of the general staffs of the army and the navy are independent of the ministry, coordinate with them, and directly responsible to the Emperor.

The privy council, composed of men who have rendered conspicuous service to the State, is merely consultative and advisory in capacity. Its members are appointed by the Emperor for life and it has considerable influence in the deciding of foreign policy, though practically none in everyday affairs.

The genro, or elder statesmen, now reduced to two, no longer have any real influence in state affairs.

The Diet is composed of the House of Peers and the House of Representatives. The former consists of about one-fourth of the nobility, a number of elected representatives of the high taxpayers, and a number of members appointed by the Emperor; but the untitled members must not exceed the titled members in number. The latter consists of members elected by the people, but the franchise is limited to male subjects over 25 years of age who pay an annual public tax of 3 yen. There are now approximately 3,000,000 voters, or about one-fourth of the males over 25. Usually legislation is submitted to the Diet by the Government, but bills may originate in either house. Ministers of state may speak in either house at any time.

The judiciary are appointed by the Emperor for life. The courts consist of local district, appeal, and supreme courts. The system is based upon French legal ideas, largely inapplicable to present conditions, so that judicial reform is being introduced.

The country is divided into 47 prefectures, of which the governors are appointed by the central government, and this government keeps in close touch and control of local affairs.

The colonies are under the direction of the governmental department of home affairs, but each governor-general is appointed by the Emperor and has practically autocratic power.

The constitution, while granting certain rights to the people, so qualifies such grants as to nullify the freedom of the individual in matters of religion, speech, writing, publication, etc., at the will of the Government. It also provides for a continuance of the budget in case the Diet fails to pass the new budget, so that the Government is practically independent of the Diet.

The Emperor is too ill to handle affairs of state and his place is being taken by the young Prince Regent, but the power of the Prince Regent is only seeming, as was the case with the Emperor, for the actual power and control is exercised by a small bureaucracy, at present under the leadership of the chiefs of the two old military families of Satsuma and Choshu. The Satsuma Clan is largely represented in the navy, finance, and industry, while the Choshu Clan is chiefly berthed in the army, the civil service, the colonies, and education.

(*c*) *Adaptability to insure stability and effectiveness in war.*—Due to the strong centralization of the Government and the control of affairs by a small coterie of closely allied leaders, the above system is well adapted to insure stability and effectiveness in war.

(*d*) *Important elements of weakness.*—There are no important elements of internal weakness within Japan proper which could or would affect the state in pursuance of a war. Practically all those alien peoples subject to the Japanese Empire, such as the Koreans, bitterly hate the Japanese, and this is the chief element of weakness within the Empire. So far, this does not apply to the inhabitants of the Pacific mandate islands.

(*e*) *Attitude of political groups.*—The internal political groups are far from being irreconcilably antagonistic in state affairs and they would assuredly unite in a common effort to support the Government in war.

(*f*) *Quality of present-day political leadership.*—The present-day political leaders are excellent men, intelligent, well trained, competent, and with the entire confidence of their followers and of the people generally.

(*g*) *Reflection of public opinion.*—The present Government reflects the views of the majority of the people of Japan. No government which neglected to take serious account of public opinion could remain in power for very long.

(*h*) *Trend of political development.*—The present tendency of political thought is away from militarism and aggressive imperialism, with their attendant bureaucracy, toward liberalism and monarchical democracy; but as the large majority of the people are politically uneducated, it will undoubtedly be a slow process of evolution.

3. *Conclusions.*—Japan is a strong entity as a nation, with a bureaucratic government in the hands of a comparatively small number of clever men, and there is little prospect of any decided change in this system for the present generation.

B. FOREIGN RELATIONS.

General.—Foreign policies of Japan are so closely associated with and influenced by the political and economic conditions of the countries of the Asiatic mainland that conclusions concerning her foreign relations are based almost entirely on conclusions concerning the relations between these Asiatic countries and the world powers.

Japan's dependence on the countries of the mainland for her supplies of raw materials and markets for her products is well known and her feelings of anxiety appreciated when she views the affairs of these countries, particularly China, in their relations to foreign powers.

There is no reason to expect Japan to change her policies and plans of acquiring the leadership in the Far East in both political influence and economic development. The provisions of the treaties in connection with the Washington conference will undoubtedly cause her to change her methods in advancing her interests to those that will be more peaceful and in accordance with western ideals.

The United States.—Japan's induction into the political, commercial and industrial life of the world was brought about largely by the United States and her progress along commercial and other lines has been influenced, in a great measure, by our commercial and industrial development on our Pacific coast.

From the date of the opening up of Japan in 1854, by agencies of the United States, up to the date of the treaty of Portsmouth, the relations between Japan and the United States were most cordial. Japan did not believe that she received her just dues under the provisions of this treaty and up to the date of the Washington conference there was not much sincerity in the form of friendly relationship between the two countries.

Japan has misunderstood our attitude in regard to the affairs of China and the mandated islands and this condition has been aggravated by our attitude on the Japanese immigration and citizenship question, which in themselves are not important, but have served to confirm the idea of unfriendliness in the Japanese mind.

Japanese educated and trained abroad have had a strong pro-American influence and have worked to the advantage of that country in giving their people a correct understanding of the honesty of purpose in our Far Eastern policies. The national appreciation of the value of trade with America has undoubtedly had a favorable influence on internal policies of Japan. United States is Japan's best customer. Japan on the other hand annually purchases more American goods than all the rest of the Far East put together.

The results of the Washington conference have been, a more common-sense view is now taken by Japan in the solution of the problems of the Far East; the Japanese Government is pleased, the business men are satisfied and the people indifferent. Japan has shown her good faith by complying with the terms of the treaty.

The recent disastrous earthquake with enormous loss of property and life, followed immediately by most-generous relief measures taken by this country, and which the people of Japan most sincerely appreciate, have given the Japanese a still better understanding of our country.

Peace being so necessary to Japanese prosperity, and this being well understood by the Japanese public, unless there are unfair methods used in blocking her dominance in Asiatic affairs, there will be no war with the United States.

China.—As a result of the Washington conference, it is believed that the political and economic policy of Japan in her relations with China will undergo a complete change, peaceful penetration and more honorable methods of acquiring concessions and establishing trade relations will be substituted for the domineering methods previously used and which she now realizes were injurious to her interests in obtaining the raw materials and opening markets which are so essential to her industrial life.

Russia.—The very definite understanding that existed between Japan and Russia, following the Russo-Japanese War and continued to the date of the downfall of the Russian Empire is past history and Japan is now in a position of watchful waiting, facing a problem, in the present Russian Government, that she does not know how to solve. She fears the possible menacing influence, on her present form of Government; through the infiltration of a Soviet and Bolshevic population. She has no fear of a weak Russian Government and will take advantage of such a condition to improve her opportunities for trade and supplies of raw materials from Eastern Siberia. With a strong government she will probably form an alliance.

Great Britain.—For many years the relations between Great Britain and Japan have been very friendly in their common cause

in opposing Russian encroachments on English interests in India and Tibet and Japan's interests in Manchuria and Korea. The results were the Anglo-Japanese alliance. The downfall of Russia and the removal of Germany from Shantung during the World War and, finally, the treaties resulting from the Washington conference gave both countries the opportunity to gracefully clear themselves of a relationship that had become very awkward for both. Economically the interests of these two countries are similar in character; they have clashed in the past, and unless the greatest care and tact is practiced in the future, by both countries, will clash again. There is possibility of serious trouble between them.

France.—France and Japan having had similar designs in South and North China, respectively, have grounds for mutual jealousy. Trade relations between these two countries are increasing and for this good reason they will put their best efforts in improving this condition of such mutual value.

Holland.—The Dutch East Indies are comparatively close to Japan, and her trade with them is of such increasing value that Japan will work to improve these opportunities as too valuable to risk the chance of trouble with a European power should she try to gain advantage by any other than peaceful methods. Neither country sees any reason for trying to bring about more cordial relations.

Germany.—While Germany gave Japan frequent cause for irritation in their contacts in China previous to the World War, yet such was her high regard for German methods in cultural and economic fields that she had the most profound respect for German efficiency. Japan was decidedly sympathetic with Germany during the World War, yet, when she dispossessed that power in the Far East, she did it most thoroughly. Japan now desires cordial relations with Germany.

Italy.—There is little in common between these two countries. Japan would give very little thought to her relations with Italy were she not considered one of the world powers.

Conclusion.—Japan's basic policy is the economic domination of the Far East and the northwest Pacific.

Japan is far seeing and knows that her economic future depends upon the development of her manufacturing industries. For this, peace with all powers is absolutely essential.

Japan will not engage in war with any first-class power unless forced to in order to preserve that dominating position in the affairs of the Far East which she considers necessary to her existence.

Japan's actions at the Washington conference indicated that she is willing to make honorable deals with the powers that will not jeopardize her position in the Far East.

Conditions at present do not justify a conclusion that any one of the world powers would ally themselves with Japan against the United States.

III. Economic Situation.

A. Food.

The diet of the Japanese people consists mainly of fish, rice, beans, peas, vegetable oils, tea, smaller amounts of sugar, rye, barley, wheat, potatoes, and such a small quantity of meat as to be almost negligible. The distribution of crops is fairly uniform throughout the empire, rice being the predominant crop on the island of Honshu; wheat, beans and peas are becoming more important crops on the island of Hokushu and sugar on the island of Formosa.

Rice, though comprising about 70 per cent of the entire cereal crop, is still in point of production about 7 per cent short of the consumption. The soya bean is the most important source of vegetable oils and import is needed from Korea and Manchuria to meet the demands of consumption.

The deficiency in rice is supplied mainly from China, Indio-China, and Siam.

While sugar is largely imported from the Philippine Islands, it is not a vital item of the diet.

Japan is at the present time forced to employ means of intensive cultivation to feed her people and there is very little arable land not now under cultivation of the most intensive type.

There is an annual deficit of foodstuffs of about 7 per cent, which is constantly increasing on account of increasing population, absorption of all arable land, and increasing consumption of foodstuffs per capita.

Japan can at the present time be made self-sustaining as to food in war time by a system of rationing, but in the not very distant future will have to depend upon imports for a continually increasing proportion of her foodstuffs. In the event she can be cut off from the mainland of Asia she can be starved out.

Her colonies are self-sustaining as to foodstuffs.

The earthquake has produced only local shortage of any considerable amount.

B. Industries and Munitioning Capacity.

Of the great military powers, Japan is the poorest in material resources.

She is deficient in iron, lead, aluminum, tin, zinc, nickel, platinum, alloys for alloy steels, and nitrates to such an extent that without

imports or reserve stocks she could not prosecute a war of the first magnitude,. She is similarly deficient in cotton, wool, leather, rubber, and petroleum.

Her production of coal, copper, antimony, graphite, manganese, sulphur, tungsten, camphor, silk, timber and chemicals is sufficient to meet the demands of all essential war industries.

Even though raw materials were available, her industry has not yet reached the stage where she would be able, unaided by foreign industrial experts, to effect the expansion of her industries for a great war effort without extreme difficulty. She is not now able to manufacture such equipment as airplanes, airplane motors, optical glass, machinery of various classes, and the finer grades of steel in sufficient quantity.

The per capita consumption of steel, the developed horsepower of her industries per capita, and her steel consumption as compared with the great industrial powers show Japan so deficient as to be incapable of successfully conducting a war with one of them if her sea routes were closed.

Imports essential to her war industries are pig iron, which she obtains mainly from China and Manchuria, Great Britain and the United States; lead mainly from Australia and Great Britain; mercury mainly from the United States; petroleum from the United States and the Dutch East Indies; nickel from Great Britain and the United States; phosphate from the United States; tin from the Dutch East Indies; zinc mainly from the United States; nitrates from Chile; rubber from the Dutch East Indies; raw cotton from China, India, and the United States; hides and leather mainly from China and Australia; wool mainly from Australia and some from China.

Japan's most important exports are silk, of which about 82 per cent goes to the United States, tea, textiles, marine products, and camphor.

Of the imports, that of iron and steel are the most vital and the production of steel is the governing factor in her potential munitioning capacity.

Japan can keep about 100,000 men in the field if limited to steel production from native Japanese ores, about 275,000 men if Korean ores are included, about 1,200,000 men if ores in China and Manchuria under Japanese control are also included and about 1,700,000 men if munitions are manufactured from unlimited importations of steel.

The recent earthquake has had only a temporary effect on Japan's standing as an industrial nation, as the principal losses were in stocks in the earthquake area, and did not include any considerable

portions of the industrial areas. These losses will soon be replaced by production or importation.

C. FOREIGN COMMERCE.

Japan's foreign commerce has grown by leaps and bounds. In 1920 it reached its maximum with a total trade of ¥4 284,569,392. The possession of an efficient merchant fleet enabled her to take advantage of the conditions favorable to the expansion of Japanese trade which the war created. Since 1895, Japan's foreign trade has had an excess of imports, except in 1915, 1916, 1917, and 1918, when, due to conditions arising from the World War, the balance of trade was favorable to her. This, however, does not take into consideration invisible exports and imports, which always balance in Japan's favor, and which in the estimates for the present year, are expected to more than offset an excess of ¥150,000,000 of visible imports.

Japan has a well-organized merchant marine; at present she has 1,852 steamships, of 100 tons gross and up, with an aggregate tonnage of 3,706,465 gross tons. Nevertheless, in the shipment of cargo from Japan foreign vessels are taking the bulk of consignments, and the same may be said of the passenger traffic. This condition is being met by a building program of merchant vessels of a superior type. Her shipping suffered little from the September earthquake, and her foreign trade will not be seriously affected. However, due to heavy imports of materials for reconstruction, there will result a larger import balance for the year.

The chief imports are raw cotton from India, the United States, Egypt, and China; flour from the United States; piece goods, metals, manures, woolens, wool, drugs, rails, locomotives, and machinery from the United States and Europe; nitrates from Chile; sugar largely from the Dutch East Indies, Philippine Islands, and Formosa; indigo from Germany, British India, and the Dutch East Indies; kerosene from the United States and Dutch East Indies; beans, peas, and pulse from China and Korea; and rice principally from British India, French Indo-China, Korea, Siam, and China. The chief exports are silk, cotton yarns, refined sugar, knitted goods, copper, matches, coal, camphor, straw plaits, porcelain, earthenware, and marine products. In 1922 the United States alone took 44.75 per cent of her exports and sent her 31.54 per cent of her imports.

In case of war Japan would have to depend on her foreign trade to supply iron, steel, rubber, cotton, nitrates, petroleum, wool, woolens, etc. Whether Japan could supply munitions and arms for a modern war hinges more on her ability to secure the raw materials

than upon her manufacturing ability to produce the weapons and ammunition.

D. FINANCE.

Japan, up to the moment of the recent earthquake, was one of the few centers of financial stability remaining in the world. Notwithstanding the pessimistic opinions which are frequently voiced by some leaders of the Japanese financial and commercial world, it is safe to say that the general position is perfectly sound. In contrast to the paper inflation that has occurred in the case of many other nations during the last few years, Japan has carried out a program of deflation that has kept its exchange on a very even keel, showing less fluctuation on the New York market than the currency of any other large industrial nation. The Government takes a very active part in Japanese banking, and the Bank of Japan, strictly Government controlled, stands at the head of the country's financial system. The governmental banks take a leading part in financial matters, both foreign and domestic, while private concerns are restricted, more or less, to business within the country. Although conditions may at times apepar serious, the Government has at all times been able to prevent a disastrous panic. The successful flotation of all issues offered on foreign markets indicates the faith of other nations in Japan's stability.

The total outstanding debt of Japan, including both domestic and foreign obligations, stood, on May 31 of this year, at $1,913,233,584, or a per capita debt of less than $25. This compares very favorably with the per capita debt of the United States, amounting to $211, and still more favorably with the $733 for Great Britain. Japan's gold holdings on August 1 aggregated $890,000,000, of which $288,000,000 was being held abroad, principally in New York. While the taxes of the country have been subject to criticism, they are, nevertheless, so distributed that they do not prove unduly burdensome, and, in comparison with nations that suffered heavily from the war, taxes in Japan are unusually light.

From all sources it seems that Japan's financial condition was in excellent shape to meet the trying situation brought about by the recent earthquake. Even in this crisis Japan's exchange has shown little weakness, in spite of pessimistic predictions coming from various quarters. Material losses in and around Tokio and Yokohama are officially stated to be a little less than $1,000,000,000. This sum, distributed over the Japanese Empire, means a per capita loss of only $13, which, together with the already existing debt, still leaves the nation in an enviable position. Her bonds on the London market dropped after the first news of the catastrophe, but have since been recovering slowly. Indications are that Japan will experience

little difficulty in floating large foreign loans for reconstruction work.

In case of war Japan must have access to a number of foreign markets in order to obtain essential materials not available in Japan or even in China or Manchuria. This means buying and paying. Japan with her limited wealth could not carry this for any great length of time. Her income would be reduced, as most of her exports are in the nature of luxuries, which would be reduced to a great extent, and especially so if at war with the United States. Japan would have to finance her war to a great extent by foreign loans; how much she could borrow depends on so many factors an estimate is impossible. Japan alone, without outside assistance, could not maintain a major war of any length, from the standpoint of foreign trade and finance.

E. COMMUNICATIONS.

1. *Transportation facilities.*—(*a*) *Water transportation.*—*Sailing vessels.*—One million gross tons.

Steam vessels.—Two thousand and three of 3,604,147 gross tons. Vessels over 4,000 gross tons, 318 of 1,929,859 gross tons. Normal routing: American Continent, 25 per cent; Europe, 15 per cent; Asiatic waters, 60 per cent. Vessels over 1,000 gross tons but less than 4,000 tons, 574 of 1,256,879 gross tons.

Oil burners.—Forty-five vessels of 290,158 gross tons.

Tankers.—Four vessels of 33,000 tons capacity of fuel oil. (In addition, there are in the Navy 16 vessels of capacity of 126,000 tons.)

Shipbuilding facilities.—The maximum was reached in 1919, when 133 vessels, totaling 611,883 gross tons, were launched.

Ports, oil storage, and coal bunkers.—There are ample port facilities for loading troops in the protected waters of the Sea of Japan and the Inland Sea and ports of debarkation in Korea and at Port Arthur and Dairen.

The supplies of fuel oil are located at the naval stations and at Kobe and Yokohama. The total storage capacity is less than 1,000,000 tons of fuel oil.

Coal is available at all large ports, but the loading is in nearly every case by hand from lighters.

Internal waterways.—These are of no consequence as a means of transportation except those handling freight from Kobe to Osaka and from Yokohama to Tokyo.

(*b*) *Land transportation railroads.*—The railroads are all controlled and, with the exception of about 2,000 miles, owned by the Government. The system on the main islands is quite complete and was apparently constructed with a view to national defense. The main lines run throughout the length and breadth of each

island, generally following the coast lines and main valleys and are cross connected. The system is single tracked except for one short stretch. There are many bridges and tunnels. The gauge is as follows: On the main islands, 3 feet 6 inches; in Korea, South Manchuria, and China, 4 feet 8½ inches; in North Manchuria, 5 feet. The capacity of the average train is 300 tons. The roads could, in an emergency, handle an average density of 14 to 16 trains each way each 24 hours. The equipment is in good condition and on December, 1922, consisted of 3,540 locomotives, 8,425 passenger coaches, and 52,027 freight cars. Most of the locomotives and all the cars are built in Japan.

In Korea there is a line running from Fusan and Mokpo to Mukden (density 8/24) and one from Port Arthur and Dairen to Mukden (density 24/24) where they connect with the South Manchurian Railway.

Highways.—The road net is very extensive and covers every section of the main islands. However, the roads are in general very poor, narrow and crooked, with steep grades and many bridges which will not carry heavy loads. The better highways follow the railroads and valleys and are cross connected only by narrow, steep roads suitable only for narrow carts. Foot troops and light artillery can operate but automobiles and heavy artillery would be limited to the vicinity of the larger cities and even the best roads would break down after a day or so if used by such traffic. Repair materials are very readily obtainable but there is little road repair equipment.

In Korea, Saghalin and Formosa the roads are even worse than they are in the main islands.

Automobiles.—There are about 16,000 automobiles, of which about 14,000 are passenger vehicles. Practically all are imported.

Horses.—In 1921 there were 1,470,000 horses, of which 60 per cent were considered suitable for military service.

(*c*) *Air transportation.*—Commercial aviation is receiving Government attention and assistance, but so far the results have been negligible.

2. *Communication facilities Telegraph and telephone.*—Both are owned and operated by the Government. The telegraph system is very extensive and there is hardly a town to which it does not penetrate. The service is fair. The telephone system is not well developed and the service is poor.

Cables.—All are under control of the Government and all are owned by the Government except one to Guam (United States), one to Vladivostok (Danish), and two to Shanghai (Danish). There are connections between the main islands; to Formosa, to the mainland of Asia at Vladivostock, Gensan, Fusan, Dairen, Port Arthur,

Shanghai, Foochow, and Chefoo, to Guam via the Bonin Islands, to Yap.

Radio.—All stations are under Government control. The net is very extensive and covers the entire Empire, including the mandate islands. There are 43 shore stations, with a range over 300 miles; 2 can communicate direct with Hawaii, 1 is believed to be able to reach the United States and Western Europe; 10 additional have a range over 1,000 miles.

3. *Conclusions.*—All transportation and communication facilities are Government controlled.

The communication facilities are ample for peace and war except the telephone service, the commercial use of which would have to be restricted in event of war.

The embarkation facilities are sufficient for Japan's needs in time of war.

The land transportation facilities are sufficient for the mobilization and employment of the Japanese armies on the main islands and their concentration at the seaports.

There is a marked shortage in fuel-oil tankers.

A conservative estimate indicates that the merchant marine is sufficient in quantity and so disposed as to permit Japan to support her civil population, furnish the navy what it would require, and transport and maintain her forces as follows:

To the Asiatic mainland: The entire strength as fast as it can be mobilized;

To the North American Continent: 100,000 the first two months, reaching 600,000 the first year and a maximum of 900,000 in three and one-half years;

To the Philippine Islands: 200,000 the first two months, reaching 1,500,000 in one year.

IV. Military Situation.

A. PERMANENT MILITARY AND NAVAL ESTABLISHMENTS.

PERMANENT MILITARY ESTABLISHMENT.

1. *General military policy.*—The military policy of Japan may be briefly stated to be dominance in all matters which concern the territories and waters contiguous to her own possessions.

2. *Organization and composition of the land forces.*—The Emperor is the supreme head of the army and navy. He appoints a board of marshals and admirals and a supreme military council from among the higher army and navy officers. These boards are his advisers and largely control the military policy.

The army is controlled through the war department.

Armies and expeditionary forces are created as circumstances demand.

Army corps do not exist.

The division is the largest unit in peace. It consists of about 9,000 men, filled out to about 20,000 in time of war. There are 20 divisions and a guard division.

The normal division consists of 2 infantry brigades each of 2 regiments, 1 cavalry and 1 field artillery regiment, 1 engineer and 1 transport battalion.

In addition to the 21 divisions, there are the following troops: Four cavalry brigades of 2 regiments each, 1 independent infantry brigade of 4 battalions, 4 heavy field artillery brigades of 2 regiments each, 3 fortress artillery battalions, 2 regiments of infantry created for Formosa, 4 regiments and 2 batteries of mountain artillery, 2 regiments of railroad troops, 2 regiments of telegraph troops, 6 air battalions, 1 balloon company, 2 motor companies, and 3,000 military police.

Aviation is under three bureaus of the War Department. No chemical warfare service exists.

3. *Strength.*—The present strength of the Japanese Army is 250,000, of which 17,500 are officers.

Service is compulsory. Period of service with the colors has recently been reduced. The active army has been reduced by 50,000 men and 1,750 officers since August, 1922.

4. *Distribution of forces.*—There are 18 divisions in Japan proper (1 division is temporarily in Manchuria), the guard division in Tokyo and 2 divisions permanently in Korea. Besides these there are 2 infantry regiments, 2 mountain artillery batteries, and 2 battalions of heavy artillery permanently stationed in Formosa, 1 infantry brigade in Northern Saghalin Island, and 2 infantry battalions detailed to Pekin and Tientsin, China.

5. *Equipment.*—Individual equipment is good, and reserve supplies are probably large. The army is far from being properly equipped with modern armament, especially in mechanical devices.

6. *Theory of combat.*—In combat with a first-class power the navy would be considered the first line of defense and the army the second line. Training is based on the theory that the offensive is necessary for victory. Infantry is the arm superior and is trained for heavy marching.

7. *Training.*—Training is thorough. Formerly the German system was used, but lessons of the World War are being gradually adopted. The troops show excellent mobility, but indications are that the army is conservative in adopting changes in tactics.

8. *Efficiency and morale.*—Discipline is strict. Morale is excellent, though army service is not popular. The Japanese soldier can

be expected to fight willingly in any war undertaken by the Empire. The army could be expected to do well against inferior leadership, but could be defeated by a bold, active, and energetic commander.

9. *Reserves.*—Japan has the following reserves:

First reserves (Yobi)	615,000
Second reserves (Kobi)	749,000
Replacements (Hojuhei)	50,000
First national army	200,000
Unclassified	340,000
	1,954,000

The conscription system has been in force since 1873. It is estimated that 90 per cent of these reserves are in the main islands and 10 per cent in Korea, Formosa, Saghalin, and Manchuria.

10. *Reserve stocks of munitions.*—No accurate data are available as to reserve supplies, but it is evident that Japan is accumulating a large stock of all necessary materials for war purposes. There is known to be a shortage of machine guns, auxiliary infantry weapons, heavy artillery, tanks, motor trucks, and airplanes for her present force; so there is no reserve of these articles.

PERMANENT NAVAL ESTABLISHMENT.

1. *Organization.*—The Emperor is the supreme head of the navy. As in the army, the board of marshals and admirals and the supreme military council are his advisers.

The navy is controlled through the navy department and the naval staff. It is patterned on the British system. The coasts of the Empire are divided into six naval districts.

2. *Strength.*—The navy consists of the following combat ships at the present time:

	Built.	Building.	Projected.	Total.
Battleships	6			6
Battle cruisers	4			4
Cruisers	21	10	5	36
Destroyers	71	13	22	106
Submarines	38	19	19	76
Aircraft carriers	1	2		3

Japan is strong in light cruisers, destroyers, and submarines. Her battleships do not equal in numbers those of England and the United States.

The navy's personnel is supplied by volunteers; when there is a deficiency by this system conscription is resorted to. She has 4,393 officers, 2,564 warrant officers, 62,840 enlisted men, and a total reserve of 37,728.

3. *Distribution.*—The ships of the fleet are based on Kure, Yokosuke, and Sasebo, but not according to any organization. A squadron in Chinese waters is based on Shanghai.

4. *Naval aviation.*—The navy is reported to possess about 300 planes, of which 72 are reconnoitering, 16 fighting, and 8 attacking planes. Japan is now planning to reorganize her air force.

5. *Theory of combat.*—The theory of combat of the Japanese Navy is the offensive-defensive; the strategical defensive but the tactical offensive.

6. *Training.*—The British system of training has been adopted. Training is intensive and thorough. The navy is kept in home waters and seldom goes on a cruise of over a week's duration.

7. *Efficiency and morale.*—The ships are well designed and well constructed. The enlisted personnel is very good. The morale is excellent. The most efficient branch is the destroyer service; the submarine service is not up to the standards of the other portions of the navy.

8. *Naval bases.*—Japan has three first-class naval bases. In order of importance they are Kure, Yokosuke, and Sasebo. Besides these there are secondary bases.

9. *Reserve stock of munitions.*—There is little information regarding reserve munitions for the navy. She has an adequate supply of coal, though inferior in quality, but an inadequate supply of fuel oil.

10. *Fortifications.*—Coast defenses are under the navy. Most of her harbors are well fortified, Tokyo Bay being the strongest. An extensive program of revision of her coast defenses has commenced.

CONCLUSIONS.

1. Japan has ample armed forces for her defense and they are well trained and efficient.

2. Her army, capable of rapid expansion to a force of about 1,200,000 men, is not yet modernized and is deficient in auxiliary weapons.

3. Her navy is modern, strong, well balanced, and ready for prompt service.

4. Japan is not strong enough to carry a war into the territory of a first-class power.

B. POTENTIAL MAN POWER AND PROBABLE RATE OF DEVELOPMENT IN WAR.

1. *Population.*—The present population of the Japanese Empire is estimated as approximately 80 millions, distributed as follows:

In Japan proper	58,200,000
In Korea, Formosa, and Saghalin	21,600,000
Total for the Japanese Empire	79,800,000

In addition there are approximately 680,000 Japanese abroad.

The total number of persons of the Japanese race in the world, including those abroad but excluding Koreans and other dependent peoples, is estimated at approximately 59,000,000.

The total number of Japanese males in the world, not including Koreans and other dependent peoples, is estimated at approximately 29,500,000.

2. *Man power.*—The Japanese conscription laws make all Japanese males between the ages of 17 and 39, inclusive, liable for military service. The following estimate of available man power is based on more extended age limits, from 17 to 45 years, inclusive:

	Total Japanese males.	Physically fit.
Ages 17 to 39 years, inclusive	10,110,000	6,085,000
Ages 40 to 45 years, inclusive	2,000,000	500,000
Total estimated man power (17 to 45 years, inclusive)		6,585,000

Of the above, the number of trained men is approximately 2,204,000.

3. *Probable rate of mobilization.*—(*a*) *Army.*—Plans for mobilization have been prepared and tried out. Staffs for active and reserve divisions are complete. It is estimated that by calling out most of her first reserves, Japan's 21 active divisions, together with certain cavalry, heavy field artillery, and other army troops, can be mobilized at war strength, ready to move, in about six days. In normal times, and without special preparatory measures, it is estimated that Japan could have in North China, 25 days after beginning mobilization, 18 of her infantry divisions, 3 cavalry brigades, and considerable army artillery. On the thirty-fifth day the complete active army could be in China. The mobilization of the 22 reserve divisions could begin on the seventh day or as soon thereafter as the active divisions are moved out of the mobilization areas. Most of the reserve divisions could be mobilized and ready to move in about 15 days after the active divisions had moved out.

The rate of mobilization is estimated approximately as follows:

Total at the end of 6 days	600,000
Total at the end of 21 days	1,200,000
Each six months thereafter	600,000

(*b*) *Navy.*—The Japanese Navy is kept in the highest practicable state of preparation for war. It is estimated that it can be fully manned and on a war footing within 10 days from the issue of the order for mobilization.

4. *Conclusions.*—Japan has ample man power and excellent arrangements for mobilizing the same. Her peace-time army of about

250,000 can be expanded in about three weeks to a trained force of about 1,200,000, while her navy can be fully manned in about 10 days. Japan's potential man power is approximately six and one-half millions. The considerations which limit Japan's maximum capabilities for war are economic and financial rather than those relating to man power, and her real problem is the munitioning and maintenance in the field of even a small portion of her man power.

V. General Conclusions.

Japan is a strong entity as a nation. Peace is a vital necessity to her continuance as a first-class power, and it is not believed that war with any other great power is probable in the near future. Japan is at present self-sustaining in food, but she will not so continue, and, due to her present industrial and financial status, she can not sustain a war of any great length against a great industrial power without external financial assistance. Japan has ample armed forces for her defense, but has neither the strength nor the transportation facilities to engage in a major effort overseas into the territory of a first-class power.

In case of war with the United States, Japan's strategical position is such that she will have control of the western Pacific and will probably carry on a war of attrition.

JAPAN.

LOSS OF SUBMARINE NO. 70.

August, 1923.

On August 21, 1923, submarine *70* while undergoing acceptance trials was lost in Osaka Bay about 2 miles from the village of Kariya.

The Ministry of Marine has announced the bare fact without giving attendant circumstances.

From various press accounts the *No. 70*, with about 90 persons on board, including 37 workmen from the Kawasaki Dockyard, went into Osaka Bay for trial. After making one long dive she was seen to come to the surface. The sea was quite rough. Apparently hatches were opened and a few persons came on deck. Suddenly she was seen to list heavily as though struck by a very large wave. Almost immediately she sank. One naval observer stated it was all over in 30 seconds.

Five persons were rescued—2 officers, 2 petty officers, and 1 enlisted man or workman.

The submarine is now said to be lying in about 30 fathoms of water and efforts are being made to bring it to the surface.

The Kawasaki Co. claims the loss was due to faulty handling: the Ministry of Marine that it was due to faulty construction.

Of course an official investigation has been ordered.

JAPAN.

RECENT PRESS COMMENTS CONCERNING NAVAL COMPETITION.

August, 1923.

The following extracts from Japanese newspapers reflect an interesting view of the attitude taken by influential sections of the press concerning the question of the way in which the provisions of the Washington conference are being practically worked out. It is well known that the press plays an important part in influencing public opinion in Japan.

[Chugai Shogyo, August 16, 1923.]

THE NEW AMERICAN FORTIFICATION PROGRAM.

The American Navy Department has approved, according to a recent report, a new program for the extension of the naval bases on the Pacific coast and Panama at the probable cost of a hundred and eighty million dollars.

This new program of America has been prompted, perhaps, by the British plan at Singapore.

Both plans are out of harmony with the Washington agreement, though, so far as its letter is concerned, it will bring forth no protest from either side. We observe, however, that the spirit of this treaty does not indicate that these powers should follow the direction they have chosen.

America and Britain are equally inclined to violate the spirit of the agreement and darken the air in the Pacific. Can Japan, threatened thus from both sides, look upon these fortifications with indifference?

[Hochi, August 22, 1923.]

NAVAL PACT WEAKNESS.

The naval treaty became valid on August 17. Immediately after it became valid, Japan, Great Britain, and America took in hand the scrapping of ships. It is, however, regrettable to notice that doubts are growing in many quarters as to the efficacy of the treaty as a preventive against the expansion of the navies of the powers. The salient defect of the naval treaty is that it lacks provisions for the limitation of cruisers, destroyers, submarines, and weapons of war. The natural consequence is that the naval race that has been carried on in the past in regard to the construction of capital ships has been switched on to auxiliary craft. In this way one of the chief aims of the Washington conference, namely, the reduction of naval expenditure, has been defeated. Another serious drawback of the Washington conference is that it failed to reach an agreement on the reduction of armies and the limitation of air forces

owing to the opposition of France. This omission is particularly regrettable because there are unmistakable signs of the air expenditure constituting a large proportion of the military expenses of the powers.

It deserves the closest attention on our part by taking advantage of the defects in the treaty the United States is strenuously pushing on her scheme for the expansion of her naval strength. Her programs include the construction of 8 cruisers of 10,000 tons each, 6 gunboats, and 3 big submarines, and the repairs and expansion of naval bases. The plan for the extension of the naval port in Hawaii at the estimated cost of about $42,000,000 claims the most anxious attention from the Japanese people. It is clear that this scheme aims at completing all arrangements for the accommodation of the whole American Pacific Squadron in case of necessity.

A section of American opinion raises objection to the naval ratio in the treaty, and declares that this ratio will be lost and peace of the Pacific will be disturbed unless a certain number of cruisers are quickly built. Such a view is ruinous to the spirit of the naval treaty, which was concluded for the purpose of ending the naval race among the powers and reducing their naval expenditures. We have no manner of objection to the object of the naval treaty ,but regret that its defects threaten to nullify its two principal aims, the reduction of the burdens of the nations and the maintenance of the peace of the world. It must be the cause of real regret to all who sincerely hope for the promotion of world peace and the happiness of mankind that there are increasing signs of the revival of a sharp naval rivalry among the powers in the shape of the construction of auxiliary craft and the expansion of naval defenses. It is up to the American Government and the Governments of the powers concerned that redoubled efforts should be made to see that the true object of the naval treaty is attained.

[Nichi Nichi, August 19, 1923.]

RENEWED NAVAL COMPETITION.

The naval treaty has at last become valid. Under this treaty Japan, Great Britain, the United States, France, and Italy are to be secure from needless naval race for the next 10 years. Premier Kato issued from his sick bed a statement expressing high satisfaction over the fact for the sake of the peace of the world and the happiness of mankind. This is all very well, but it is disquieting to note that there are already indications that naval competition in a different form is arising among the signatory powers. Among other things pointing to this conclusion, we may refer to Great Britain's Singapore naval base scheme, involving the expenditure of £11,000,000, and America's program for extending the naval bases on the Pacific at the estimated cost of $120,000,000. These projects may not contravene the letter of the treaty, but they obviously betray its spirit. Nor can these measures be said to be attempts to "use for constructive purposes the expenses hitherto employed for destructive purposes," as urged by the late President Harding at the Washington conference. They are not calculated to "lessen various misunderstandings in international relations" either. We are afraid that these undesirable plans may create an enormous naval competition which may arise 10 years hence. It is an obvious fact that under the naval treaty, which reduces the Japanese naval strength to 60 per cent of that of Great Britain and the United States, and which puts the Bonin Islands, Amami Oshima Island, the Kuriles, and the Pescadores, all points of strategic

importance within the zone for the restriction of defences, Japan is powerless to assume the offensive against Great Britain and America in the future. To this clear truth, however, these countries deliberately shut their eyes, and insist upon using "expenses for destructive purposes" for such purposes as hitherto, by choosing to make Japan their potential enemy. Is this what the late President Harding called the manifestation of "conscience awakened by the civilization of the twentieth century?" We are inclined to believe that Mr. Kaharan's remark that the peace of the Pacific is a false peace contains much truth.

[Nichi Nichi, August 18, 1923.]

A PEACE MASQUERADE.

The naval agreement has gone into effect for the coming 10 years and the five great powers should be saved of useless competition. Premier Kato believes that the treaty will promote human welfare and peace of the world.

Before this treaty has become operative, however, its spirit is already being violated. Britain is ready to spend eleven million pounds for a naval base at Singapore. America will extend her Pacific fortifications at the estimated cost of one hundred twenty million dollars.

Can these estimates mean funds for a destructive purpose transferred for a constructive purpose, or lessen misunderstandings in international relations?

Will not these bold attempts, in a way not infringing the letter of the treaty, mean another and still greater competition at its expiration?

Japan's allotted ratio and limited armament in Bonin, Amami, Kurile, and Pescadores Islands disable her from any offensive war. Despite these well recognized fact, the powers are determined to employ those funds for their original destructive purpose. Is this really a revelation of the awakened conscience of the twentieth century's civilization?

We find more truth in the words of M. Karahan, who said that peace in the Pacific was nothing but a mask.

[Chuo, August 19, 1923.]

POWERS DISREGARD WASHINGTON TREATY.

At last the naval treaty has become valid. For many months much apprehension prevailed in many countries as to whether it would ever receive the ratification of France and Italy. This fear was fully exploited by the opposition parties for delivering attacks upon the Kato Cabinet for effecting the scrapping of battleships with unusual dispatch. As for Premier Kato, however, he never suspected that the treaty would fall through. He personnally attended the Washington conference and was too well acquainted with the views of the leaders of the various Governments on the limitation of armaments to be skeptical of the future of the treaty. The fact that the Premier quickly determined the program for the naval limitation and pushed on the work of scrapping earned for Japan a very favorable opinion abroad as a country sincerely desirous of peace. The "Observer," of England, for instance, praising this attitude on Japan's part, declared that Japan was most faithful in acting up to the spirit of the Washington conference.

In comparison with Japan's attitude, the attitude of some other powers, who met at Washington and earnestly discussed the ways and means of attaining world peace, raises some grave doubts in Japanese minds as to whether they

are as sincere as Japan at present regarding the promotion of peace and the limitation of armaments. The naval treaty is not a perfect instrument as a prevention against the increment of armaments; by its faithful observance of all signatory powers a great contribution may be made toward the object for which it was signed. Now, however, some powers are acting in contravention of the spirit of the Washington conference and the treaty, and there are indications of a revived armaments competition. This is a bad omen, which threatens to nullify all the efforts made at the Washington conference for the worthy object of attaining world peace. The schemes of Great Britain and France for the extension of their respective air corps, Great Britain's program for the establishment of the Singapore naval base, America's project for strengthening the defenses on the Pacific, and Holland's naval expansion plan gives cause for sincere regret to those who are eager to see the spirit of the Washington conference strictly observed by the powers.

[Japan Advertiser, August 21, 1923.]

U. S. NAVAL PLANS DEPLORED BY OZAKI—APPROVAL OF $111,000,000 FOR PACIFIC COAST DEFENSES BITTERLY CONDEMNED—JAPAN TO SPEND MORE—FAMOUS PACIFIST LEADER STATES THIS COUNTRY CAN'T CURTAIL WAR BUDGET NOW.

The action of the United States Navy Department in approving the recommendation of the naval board for an appropriation of $111,000,000 for additional coast defense forts on the Pacific is bitterly condemned by Mr. Yukio Ozaki, president of the Kakushin Club, and a leader in the Lower House of the Diet. In an interview with your correspondent here, where the well-known radical and stanch supporter of the labor movement is spending the summer, Mr. Ozaki said that this new move on the part of the United States has killed any hopes entertained for reducing the budget totals for the army and navy in the session of the Diet this winter.

DOUBTS CURTAILMENT NOW.

He intimated that a group of pacifists in the Diet, of which he is one of the recognized leaders, had intended to urge additional curtailment in the appropriations asked by the war office and the navy department, but that such agitation will now doubtless fall on deaf ears. "This action of the naval officials in America will inevitably direct suspicion on the part of the Japanese public as well as officialdom regarding the real policies of the United States," he said.

"There is no reason why America should spend more money on fortifications along her Pacific coast and in Hawaii. Do the American people believe that Japan, with her 60 per cent naval resources, would go to war with the United States, with her 100 per cent naval resources? Has not the Washington conference and its results driven from the minds of the American public the false impressions regarding Japan and her motives?

"Although England is not justified for contemplating a naval base at Singapore, still certain protection of her colonies in the Far East is warrantable. Japanese naval officials do not look with alarm on the plans of England for such a naval base, as they see no danger to peace in the Pacific Ocean by such action. But the United States, on the other hand, has no possessions in the Pacific which are assailable except the Philippine Islands. The Philippines, naval experts say, could never be anything but a weak point in case America goes to war, and any nation that takes them could not for long hold them.

Furthermore, no other country wants these islands in time of peace, as they are causing enough trouble for America. Incidentally, I believe that the solution of the Filipino problem is for the United States to grant the territory independence, perhaps withholding supervision in certain branches of the government for a time."

BLAMES TRADE INTERESTS.

Mr. Ozaki wanted to know if it were true that business interests played a big part in politics and government in the United States. "I suspect that vast commercial interests are partly responsible for this action of the United States naval officials. This is the only explanation I can find for a move that runs so contrary to the spirit of the Washington treaties.

"There is still an alarming amount of misinformation and suspicion in the rural districts in Japan regarding America and her policies. Before the Washington conference these people saw the United States as a rich and powerful nation which was encroaching upon the rights of the Japanese. When the Washington sessions were proposed these same people doubted America's sincerity of purpose. Even after the treaties were signed there was, and still is, a certain amount of apprehension regarding what America intended and intends to do. The move to increase her coast defense power in Hawaii and along her Pacific coast line will certainly increase these alarms, and will also be considered by Japanese officialdom in shaping its policies."

SEES NEW NAVAL RACE.

Mr. Ozaki looks with alarm on the race of the United States, England, and France in the construction of auxiliary fleets and air forces. He intimated that he has been carrying on a quiet work of propaganda in official circles, urging Japanese to take the initiative in calling another conference similar to that which met a year and a half ago in Washington. At this proposed conference the proposal for limitation of auxiliary arms of defense, such as airplanes and cruisers, would be brought up.

FRANCE.

ACTIVITIES OF NAVAL GUN PLANT AT RUELLE.

September, 1923.

Principal experimental work consists of manufacture of very long guns in longitudinal sections, tests of Charbonnier system of artillery, auto-frettage, and removable gun liners.

The principal activities of the naval gun plant at Ruelle in August, 1923, were as follows:

1. Construction of very long guns in longitudinal sections. This included a 100 m/m gun 160 calibers long, a 37 m/m gun 160 calibers long, and a 50 m/m gun 200 calibers long.

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2. Construction of horizontal and vertical pits for auto-frettage purposes with a view to the manufacture by this process of guns of large caliber.

3. Work on 100 m/m antiaircraft gun and mount.

4. Preparation of further tests with removable gun liners.

5. Test of 137.5 m/m Charbonnier gun.

6. Manufacture of 13 m/m and 15 m/m guns of the regular naval program.

DETAILS OF MANUFACTURE.

1. *The construction of very long guns in longitudinal sections.*— One of the principal subjects under investigation and study at Ruelle is the manufacture of guns with a view of giving them great length in constructing them in longitudinal sections. Three different guns of this type have been or are being constructed at the present moment. The 34 c/m gun described in Report of August 13, 1923, has successfully completed its first test firings and has given complete satisfaction. In this case, as explained, the extension piece, 15 calibers long, was shrunk on over the muzzle of the original 45-caliber gun.

The second gun of this type is 100 m/m in caliber and will be 160 calibers long. This gun is made up of five separate longitudinal sections assembled in a manner similar to that used for the 34 m/m gun; in other words, each successive piece shrunk over the adjacent section. Incidentally this gun will be supported in an old 270 m/m gun. A muzzle velocity of from 1,400 to 1,500 m. s. is expected with a projectile weighing about 16 kgs.

The third gun of this type is a 37 m/m. gun, also 160 calibers long, made up in longitudinal sections but differing from the others in that the sections are assembled for firing and can be disassembled after firing. It was stated at the arsenal that great hope is entertained that this process of gun manufacture will be successful and will make possible the use of guns of exceedingly great length which can be assembled at the firing point and consequently transported in sections. In other words, the French naval authorities anticipate guns of such length which in their assembled position it would be impossible to transport on an ordinary railroad, and they consequently plan to push experiments with this latter system of gun construction as much as possible. This 37 m/m. gun in four sections has already been fired three rounds, after each of which the gun was taken down and examined and then reassembled. This firing was completely successful. In this case each section was rifled separately.

The sections are assembled by means of bronze sleeves into which the sections are screwed, the assemblage being maintained and checked

by a series of radial located screws passing through the bronze sleeve into the walls of the gun. With this gun a muzzle velocity of 1,300 m. s. (4,260 f. s.) has been obtained with a maximum pressure of only 2,200 kgs. per square c/m. (31,300 lbs. per square inch) and consequently comparatively little erosion.

I can not emphasize too much the fact that this question of guns of excessive length made up in sections is considered of the greatest interest by the French naval gun experts who apparently intend to push this study to a successful conclusion.

2. *Auto-frettage.*—The auto-frettage process of manufacture of large caliber guns in France has received a serious setback recently by the failure at Creusot in the expansion of one of the jackets for the 45 c/m. naval guns. This information was obtained from Mr. Martin, naval ordnance engineer in charge of auto-frettage work at Ruelle, and who was present when the failure referred to occurred. His theory concerning the rupture of the jacket under comparatively low pressure is as follows:

The bar occupying the interior of the jacket for the 45 c/m gun during the auto-frettage operation broke in two under a hydraulic pressure of 2,400 kgs. per square c/m (34,000 lbs. per square inch), and Mr. Martin believes that the sudden wave of pressure set up by this occurrence caused the rupture of the jacket. The elastic limit of the bar referred to was only 50 kgs., while the elastic limit of the gun steel was 45 kgs. The great loss sustained by the failure of this large and expensive gun forging is due, in the opinion of this expert, to the failure to realize the necessity of spending a comparatively small additional amount of money in preparing a sufficiently strong steel center bar for the auto-frettage operation. At all events, as a result of this failure and others, in future all auto-frettage work at Ruelle will be done in the pits, either vertical or horizontal, which will prevent any danger to personnel in case of bursts. As a result of this experience Ruelle has decided not to construct one of the 45 c/m guns as has been planned, but will leave the construction of both guns in the hands of the Schneider Company at Le Creusot. It should also be noted that Mr. Martin criticized the method of casting the ingot used for the gun forging, which he says was also another case of attempting to economize and resulting in having metal of doubtful quality in the middle of the forging.

The cylinder heads used for auto-frettage work have two loose steel rings with two rings of rubber composition packing known as dermatine. Plans are now being made to manufacture a 205 m/m gun of the monobloc type, 50 calibers long, to operate with a normal pressure of 3,000 kgs. per square c/m (42,500 lbs. per square inch).

3. *100 m/m antiaircraft gun.*—An antiaircraft gun of 100 m/m caliber having a total length of 55 calibers and designed to fire with a muzzle velocity of 1,000 m. s. (3,280 f. s.) was seen in the shops. This gun has actually fired with the velocity indicated with a maximum pressure of 3,000 kgs. (42,500 lbs. per square inch). Projectile for this gun is said to weigh 18 kgs. (39.8 lbs.). This gun will be of the semiautomatic type and it is expected that it will be capable of firing 30 rounds per minute, using fixed ammunition.

4. *Preparation of further tests with removable gun liners.*—The ordnance engineers at Ruelle believe that in France their manufacturing methods are better adapted to the cylindrical removable liners with shoulders abutting against corresponding shoulders in the jacket than for the use of the conical liner method now under experiment at Tarbes. The officers conversant with American methods, however, stated they believed we had considerable experience with conical liners and should be able to succeed in making liners of that character. No further tests have been carried out since the test with the 14 c/m naval gun described in a previous report, and at Ruelle the tendency is toward the use for removable liners of a high elastic limit steel varying between 100 and 135 kgs. elastic limit.

5. *Test of 137.5 m/m Charbonnier gun.*—The 137.5 m/m Charbonnier gun, using his projecting breech block and rifled projectile, has given good results. This was admitted by the engineers at Ruelle who are by no means partisans of the Charbonnier system of rifled projectiles. This gun of the monobloc type, constructed by autofrettage, has already fired 30 rounds. A muzzle velocity of more than 1,000 m. m. (3,280 f. s.) has been realized with a maximum pressure not exceeding 3,000 kgs. per square c/m (42,500 lbs. per square inch). The weight of projectile was stated to be about 35 kgs. (77 lbs.). This gun has only 12 grooves which are very wide and deep. It should be recalled that one of the principal characteristics of the Charbonnier system is the fact that the powder chamber is of the same diameter as the bore, his theory being that such a design would greatly diminish erosion experienced with ordinary guns. As a matter of fact, the gun has already fired 30 rounds and measurements have indicated the erosion is practically nonexistent. In the absence of available data concerning pressures and muzzle velocities used for these rounds, I do not consider it safe to draw definite conclusions concerning this type of gun construction.

6. *Manufacture of 13 m/m and 15 m/m guns of the regular naval program.*—From ten to fifteen 13 m/m and 15 m/m guns were being constructed for the regular French naval program. These guns are both 50 calibers long and designed to be fired with maximum pressures of 3,000 kgs. per square c/m (42,500 lbs. per square inch) to give a muzzle velocity varying between 950 and 1,000 m. s. (3,120

and 3,280 f. s.). The engineers seemed unwilling to give me details concerning these guns, but admitted that they were of the ordinary built-up type without provision for liners, their peculiarity being that they were constructed with very large leeway in the way of pressure so that a much higher pressure could be used than that stated, in the event that at a later time increased gun pressures become necessary. Certainly for their caliber these guns had the appearance, on account of their very thick walls, of being howitzers rather than guns in spite of the fact that they were 50 calibers long. As regards the question of liners, it is only intended to add liners to these guns when they are completely worn out by firing.

The fact that there has been successfully constructed at Ruelle a twin mount for 14 c/m guns of a semi-automatic type capable of firing at the rate of 60 shots per minute should be mentioned. These guns, however, are so unwieldy that they are interesting only as a curiosity, and are not considered to offer any practical usefulness.

CHINA.

A SUMMARY OF CONDITIONS.

September, 1923.

(Preliminary comments by War Department, Military Intelligence Division.)

The accompanying letter was written by a man resident in China for many years, a professor of political science at a prominent American university. While this office is not in entire agreement with all the details, the letter furnishes a good impression of present conditions in China and of the manner in which the Chinese play upon foreign gullibility. The writer's conclusions are not concurred in. If it were possible for all foreign powers to act in concert (which is not remotely possible in fact), then mere force might for a time delay the evil day when the movement of "China for the Chinese" will make foreign life and foreign business difficult, to say the least.

This office believes that the Chinese powers of patience and passive resistance are so great that no amount of force which it is possible for foreign powers to array in concert would have more than a temporary effect upon the maintenance of the present unique and advantageous status of the foreigner in China. It must be admitted, however, that an abounding faith in a forceful policy is prevalent among foreigners in unofficial positions who blandly overlook the unsurmountable obstacles to a concerted application of force. All the lessons of failure in international cooperation in

Europe are forgotten. The victory of the Turk and the revival of all his powers in the face of unsympathetic but divided European governments are lost on the foreigner in China. He cries for force where there is no force, certainly when the neutralizing effect of conflicting interests is considered. He forgets that China, with all of her disorders, lack of government, and other chaotic conditions so well known, is racially more homogenous and fundamentally more sound than most of the nations of Europe.

New sanctions are not needed in China. The rigid enforcement of rights and privileges now guaranteed by treaties are all foreigners require to be reasonably secure in China, and the Chinese people accept these existing rights, unwillingly, perhaps, but accept them, nevertheless. Scrupulous, energetic, and concerted action in demanding present rights to the very letter would obviate the necessity of force in maintaining the status of the foreigner. The Chinese would understand an insistance on existing rights and could combat it very unsuccessfully provided that the local diplomatic representatives were to act in entire accord, were to act quickly and energetically, and never for a moment relaxed their pressure in forcing their point. The rights exist and the means for exacting them exist, without military force, if Chinese methods supplemented by western aggressiveness are adopted. The Chinese method is to exert steady, patient, uniform pressure, conceding nothing to sentiment or to finer points of justice. The western method should be the same except that the pressure should be in all cases greater and more quickly applied. A moment's relaxation of the foreigner permits China to "flow" back; a slight lack of agreement among the foreigners permits China to "flow" between, and flow she always does.

"For China, as, of course, you know, is now simply in a state of military and political chaos. I am sending you yesterday's and to-day's papers; glance over them and you will find little but reports of lawlessness. Those mentioned are, of course, only the small minority that happen to be of direct or major foreign interest; and nothing is said of the innumerable outrages of which the Chinese alone are the victims. In to-day's "Leader" you will find a whole page of platitudes from Dr. W. W. Yen, the burden of it all being to beg and persuade—and intimidate—the foreign powers to steer clear of all intervention. Naturally that is desirable from the Chinese standpoint, and you couldn't find a more amusing example of the Chinese cleverness and the inexhaustible gullibility of the foreigners than the arguments they employ. And this seemingly forever. Each new foreign minister says, "We must be very careful because * * * " and then repeats the argument for doing nothing suggested by his last Chinese "confidential source." But from the point of view of all the foreign nations, intervention is not only desirable but absolutely indispensable if any shreds are to be salvaged from the wreck, provided always that such intervention be made effective and performed with some reasonable degree of concert by the various powers chiefly concerned. That is the only real difficulty—the working in concert. Never was there a greater need or

opportunity for constructive statesmanship. Something must be done to restore foreign prestige, and, however unwilling we may be to admit it, it is nevertheless true that to the Chinese of the present generation at least (and he is not going to change in a hurry) foreign prestige varies in direct ratio with the force which foreigners show and the fear that such force inspires. You remember the dictum of Sir Robert Hart, that "the Chinese are a nation that yields nothing to reason and everything to force." To govern their relationship among themselves they have their age-old conventions; but these do not apply to or exist for their foreign relationships where (in spite of our disinclination to admit it) the above dictum holds absolutely true.

Without actually returning to China you must find it almost impossible to conceive the demoralization which has taken place and the extent to which foreign prestige has fallen. The foreign powers no longer inspire either respect or fear. Their property and personal rights are violated with the most perfect equanimity; their protests and threats are alike calmly ignored.

The Chinese simply don't care. They are rather amused and pleased at finding that they can ignore foreign threats with perfect impunity, and they wonder why they didn't do it before. The military leaders have learned that they are above all law and control. The civil functionaries either shelter themselves under the cloak of the militarists or else, in the ever-present probability that they will be out of office, anyway, in a few weeks, simply postpone the foreign difficulties to be handled by their inevitable successors. Why bother to solve a difficult problem which will otherwise soon become the burden of your rival? Why use good money to pay debts or indemnities when one can so easily pocket it oneself? It's much simpler and more pleasant to pocket it oneself. In all this bother about the defaults on foreign loans, the real reason is to be found not at all in the lack of revenue but in the premeditated refusal of the officials, civil as well as military, to use for their lawful purposes the funds which otherwise are diverted to themselves; and this will go on just so long as the foreigners continue to refuse to make a show of force. And the clever Chinese actually have the nerve to persuade us (and again they get away with it) that the only way they can pay us what they owe is for us to make new loans with a wide margin for their own pockets.

It is easy and salutary to trace some of the major causes of diminished foreign prestige. First of all, it is important to remember that the Chinese do not like or want us—have never liked or wanted us—never will. This applies to the officials whose difficulties we increase, whose "face" vis-a-vis their own people we diminish, and whose freedom of action we to an extent restrict. They would be much freer and happier without us. It applies to the people in general to whom we are an irritating lot of noisy barbarians. It applies to the scholars and gentry, who see the foundations of their political social-economic world undermined and subverted by the half-baked "new learning" inculcated recklessly by our missionaries and school-teachers. It applies most of all to the returned students, who are bitterly antiforeign to a man. The only class to which it applies only partially are the importing and exporting merchants who stifle their real feelings for the sake of their business. We may not like to admit all this, and there are many generous souls who are temperamentally incapable of doing so, but it is nevertheless true and *it can not be obliterated* for several generations at least. No two nations really like each other. Consider the case of the English and the Americans with our common origin, literature, culture, and habits; and it is not strange that the Chinese regard us as they do. But we Americans especially have always convinced ourselves to the contrary, and we have expected that by donations and

foundations and sweet words we would call forth (even that we *have* called forth) the love of a grateful people. Feministic tommyrot; and as long as we continue to deal with a purely fictitious China, a China of our own imagination, as we would like to conceive it but which can never exist in actuality, we will continue to add our share to the incredible blunders which in almost unbroken succession have of recent years marked the history of the foreign powers in China, to China's detriment far more even than our own.

Second. The generation that experienced the "sanctions" (if we may call them so) imposed by the powers after the Boxer massacres have passed off the stage, and the new generation now in power has never felt or seen the force of foreign anger; but on the contrary has seen Russia go down before Japan, England powerless against Japan's aggression during the World War. China courted and flattered by all and sundry, the spoilt child of the Washington conference. In every contest with foreign diplomats and financiers China has easily come out on top.

She has played with us and hoodwinked us as though we were children—and laughed at us continually behind our backs. She has found it so easy to set one nation off against the other—to refuse this or that right to the Americans, for instance, because the bogey of the Japs might demand a similar concession—or because of the dreaded "loss of face": all the threadbare property of the Chinese diplomatic juggler, and it works! Strange, incredible as it seems, it still works. Why *should* they respect us?

Third. The Chinese were not only permitted but actually encouraged (with the insensate bitterness of war feelings) to abolish German, Austrian, and Russian extraterritorially and to arrest and parade through the streets white soldiers under Chinese guard. That marked the beginning of the end. The luckless white man of the "enemy" nations are arrested, imprisoned, humiliated, disregarded. And to the Chinese, there is no more difference between an Englishman and a German than, to us, between an Apache and a Navajo.

And, fourth. With the increasing chaos of recent years foreigners of all nations have been molested, pillaged, killed, or kidnaped. At first the perpetrators, and the country, expected the sky to fall. They waited in fear and trembling. But—nothing happened, except, of course, protests and notes to an utterly corrupt and powerless government in Peking. And the officials here soon found that it is so easy to disregard even these, to pass the buck, to blame the militarists (by whose favor alone they hold office), to ask the foreigners to be "patient" and soon everything would be all right. The American Coltman is killed and a consul fired upon, but the Peking Government explains that the tuchun is stubborn and won't listen to reason, but he will have "a change of heart very soon, provided the foreigners don't do anything rash; and the word runs through all the military and civil yamons in China that the rights and persons of foreigners can be violated with safety. That incident happened months ago, and even if a settlement were to be effected to-day the harm is done. Memories are always short. Debts are defaulted—but the militarists need the money, and if the civil officials don't secure it for them they are promptly replaced. The foreigner can be fooled and staved off so much easier than the tuchun. It's all so simple and easy.

Always, according to the Chinese, the turning point is just ahead, and if the foreigners aren't "patient," if they act rudely now, all the beautiful millenium just around the corner will be shattered. Everything would be all right as soon as the Anfus were run out of office; as soon as Chang Tso-lin was defeated; as soon as Parliament was reconvened (and great God, what a Parliament; but that's a story in itself), and so on and so on, and *now* as

soon as the constitution is drafted. Did you ever hear such rot? (A decent constitution is obviously impossible with the present or any other possible Parliament, and, anyway, will you tell me who is going to force the tuchuns to obey it?) Or because (seriously) 1923 is the last year of a sixty-year cycle, the "Year of the Pig" and everything will be all right in 1924 always provided the foreigners don't upset the apple cart in the meantime. To such an extent that such an argument should be used seriously has foreign respect fallen. And the foreigners swallow it. Incredible as it seems, they actually swallow it; some (chiefly Americans), because they are tempermentally, sentimentally, fatuously, blindly soft-hearted and optimistic, but most because they simply dont' know what else to do. And one can sympathize with them there.

But there is nothing inherent in the situation that makes a solution impossible. It is still by no means beyond recovery if prompt and stern measures are adopted, but it will soon be beyond recovery if they are not adopted. It is the promptness and sternness of action that is of vital importance, and granting those you have a large choice of practical measures to select from. Care should of course be taken to choose the best, but such care should not be allowed to degenerate into hair splitting and delay. At least from the close and narrow point of view of one in Peking it would seem that the difficulty lies not in devising and carrying out of adequate measures but in the concert of the various powers and possibly because there may be at home—in America and the various European countries—no feeling sufficiently strong to demand and approve radical action; and perhaps some new holocaust, like the Boxer troubles, is a necessary preliminary. It is inevitable sooner or later if matters are allowed to take their course, and if statesmanship can't avoid it, what can it do? To one here it appears that the legations can do no more than file protests and write reports. The Norwegian minister yesterday raised his hands in horror at the idea of intervention because it would not be "protocol."

But one thing is certain. China is utterly incapable of righting herself in any reasonable time without drastic foreign intervention of some kind, and we are faced with the alternative of seeing China go from bad to worse for a long, indefinite period or else adopting some method of intervention.

So far there are visible no organized, concerted antiforeign activities; but the feeling, as I have said before, is always here, and with the loss of respect for the foreigner and the feeling that he may be outraged and disregarded with impunity, the growth of such a concerted movement becomes highly probable, and the growing of lawlessness and the shifting politics throughout the country make it merely a question of time before such an antiforeign campaign will be definitely launched. Sooner or later some hard-pressed politician or tuchun or bandit chief will follow the policy of the old Empress Dowager and divert against the foreigner the wrath primarily intended for himself. He wont concern himself with the results of such a policy in the long run. For years everyone in China has been following a purely opportunist policy, a policy of sauve qui pout. The greatest danger comes from the fact, already abundantly proved and widely recognized, that the surest and safest way to embarrass one's office-holding rivals is to maltreat the foreigners.

As I see it, the most sinister and hopeless feature of the entire situation lies in the utter indifference of the Chinese officials, civil and military, to the most elementary rights of either foreigners or Chinese and to the future of their own country. It is childish to try to talk to them about the danger of diminishing Chinese credit. They simply don't care. They are without exception corrupt and selfish to a point that we can hardly credit, and therein

has partly lain their safety, for we contend that things and people simply can't be as corrupt as they really are. On the entire horizon there is not a single person or class or movement that gives any real basis of hope for real improvement. The merchants, the bankers, the students, have all been tried and all found equally unreliable. I realize that I am making sweeping assertions, but I mean what I say, and I could prove it were it not for considerations of space.

Unless I am wholly wrong in my conviction that a long period of increasing Chinese chaos can be avoided only by drastic foreign intervention, it follows that every day such intervention is delayed must make it when it comes more and more difficult and expensive. Much more sweeping measures must be taken to-day than would have sufficed two years ago; but I believe that still no physical force need be employed, but merely the show of force. Whatever they may do with foreign diplomats, the Chinese are still chary of foreign gunboats and soldiers, and here, as everywhere else, money is the key to the situation. As long as we continue to turn over salt and customs surpluses to the tuchuns (for to turn them over to the Peking Government is exactly the same thing) and actually tax ourselves to increase such surpluses (for that is what the last customs tariff revision amounts to in practice), and at the same time quietly allow the Chinese calmly to default our debts, you can't expect the officials to do otherwise than they do, and the people don't care an iota. But I can see nothing to prevent a conference of the powers establishing in Peking an international committee of financial control backed by a careful distribution of foreign troops and gunboats (in all probability they would not be used, their mere presence being sufficient) to receive and dispense all revenues now in the hands of foreigners (such as the customs and the salt) and even if necessary such other taxes as the Peking control and other revenues, federal or provincial, easily collectible at some central points. If that or some similar plan were adopted (and I believe it could be done without firing a shot, but even so there is no danger of a nation-wide outburst which is merely a scarecrow dangled by the Chinese), you would see the bubble of arrogant militarism vanish into thin air and the real orderly genius of the Chinese quickly reassert itself, relieved of the present nightmare of pillage and extortion.

The trunk lines of the railroads should be guarded by foreign troops and military travel (except for local police duty) should be prohibited. The gist of the whole matter is this: Show the Chinese, civil and military officials, that the foreigners mean business, that they are no longer gullible children but a real force to be reckoned with, and they will come instantly to heed and respect you infinitely. Continue the empty diplomatic and sentimental nonsense of the past and present and China continues in chaos for at least a generation. I defy any clear-headed and impartial students of the present situation to come to any radically different conclusion.

Just one word more: One hears in the papers and in the speeches of various "well wishers of China" more or less about the saving growth of a popular opinion, to be led and guided by young China, or by the merchants, or by this or that, which will purge China of all its ills. Tommy rot, again. Except for sporadic outbursts, the "enthusiasm of five minutes" of the students, more or less obviously instigated by crafty old politicians, there can be no real public opinion in China for a generation or more. We wait, for it is like waiting for the millennium; and (a point always overlooked in such discussions), when such public opinion does come, it is almost sure to be chauvinistically nationalist, directed against the foreigner rather than to the protection of its rights.

I wish I had time to tell you of the recent history of Tsingtao; of how the Chinese have sucked it dry and in a few months reduced it from the admirable place it was to a sucked and rotting orange squeezed to the last drop. Or else of how indifference even more than incompetence has delayed the rescue of the passengers carried off in the Lincheng (Pukow Tientsin Express) outrage of two weeks ago; but of course I have already written unconscionably.

GERMANY.

DEPTH CONTROL FOR OSCILLATING MINE.

September, 1923.

NOTE.—The sketch mentioned below is not available.

The inventor of this mine control, Herr Ernst Fischer, served on a German destroyer during the war and states that the development of his invention has taken place during the past three years. The device which was seen was made by the inventor and is the first one which he has made. While somewhat crude in workmanship, it serves the purpose well. All of the experimentation in connection with the development of the apparatus has been conducted in the vicinity of Kehl in a large fresh-water tank which is entirely inclosed and free from disturbances of any kind due to air, wind, currents, tide, rough water, marked fluctuations in temperature, etc.

The device was designed to operate for one hour, the period of operation being largely dependent upon the pressure to which the air is compressed in the air flask. The length of the period of operation could be extended to from two to four days, according to the claims of the inventor.

Inclosure Z, forwarded herewith, is a general-arrangement drawing showing the operation of the depth-control apparatus. This drawing also shows a small sketch of a mine with the device in the center.

The depth-control device consists of a steel cylinder with a small "balance" chamber H fitted on top and two small semicircular wings F. The air flask N contains air compressed to two atmospheres.

There are two rubber diaphragms, A and B (shown brown in the drawing), with metal stiffening rings R. These two rubber diaphragms are of different sizes. They are designed with their size in a special ratio such that when the apparatus is submerged to a depth of 2.8 meters below the surface of the water the water pressure on the two rubber diaphragms is equal.

The apparatus floats perpendicularly in the water. The upper side of the rubber diaphragm A and the lower side of the diaphragm B are open to the water pressure as indicated on the drawing. Bolted to the top of the air flask N is a small chamber P (shown

pink in the drawing.) This chamber contains a lower rubber diaphragm C and an upper rubber diaphragm D. The top of this chamber has a steel perforated cover S. The upper side of the flexible rubber diaphragm D is open to the water pressure through the perforations in the steel cover X. When the apparatus sinks, the water pressure on the upper diaphragm A is greater than on the lower diaphragm B, and the upper diaphragm A is forced downward, causing a steel rod M to descend, which operates a valve T at the lower end, allowing the compressed air to pass from the air flask N through the opening S and the tube L, through the opening above the valve T into the small compartment Y, and then through the tube K into the apertures P^2 and P^1, admitting the air pressure to the lower side of the rubber diaphragm C.

As the pressure of the compressed air on the underside of the diaphragm C overcomes the water pressure on the upper side of the diaphragm D, both rubber diaphragms C and D are pushed up to the underside of the metal cover X of the compartment P.

As the water is expelled from P, the apparatus rises.

In other words, when the device is at a depth below the surface greater than 2.8 meters, the water pressure on the upper diaphragm A is greater than on the lower diaphragm B—the compressed air is turned on and forces the water out of the chamber P and the apparatus rises. When the device is at a depth below the surface less than 2.8 meters, the water pressure on the lower diaphragm B is greater than on the upper diaphragm A. The compressed air is shut off, water is admitted to the compartment P, and the apparatus sinks.

When air is forced out of the compartment P it rises to the surface in small bubbles which last for about 10 seconds but are hardly noticeable on the surface.

The small chamber H is used with this particular model only for the purpose of reducing and balancing the buoyancy of the apparatus. A small amount of sand or gravel is put in it to reduce and balance the particular buoyancy desired, which of course bears a direct relation to the selected depth of 2.8 meters at which it was desired to equalize the pressure on the upper and lower diaphragms A and B.

The semicircular metal wings F are attached to the apparatus solely for the purpose of retarding the velocity of the apparatus through the water as it rises and sinks. It increases the time for a complete cycle of operation, that is, one sinking and one rising, from one minute to one and one-half minutes.

The model with which the experiments were conducted was designed to operate for one hour with air in the air flask compressed to

two atmospheres, which was effected by a small bicycle pump connected to another opening in the bottom of the air flask not indicated in the drawing. By designing an air flask for a pressure of about 150 atmospheres the inventor claims the apparatus will operate at least 72 hours. During the experiments which I saw the depth control apparatus was not inclosed in a mine, as the inventor stated he could not afford the necessary outlay of funds. During the hour which I witnessed the tests the apparatus functioned perfectly. When placed in the water it sank to a depth of about 2½ meters and then rose to a depth of 1½ meters below the surface. For an hour the device then rose and sank continually between those limits. It took 1½ minutes for the complete cycle—30 seconds to sink, 30 seconds to rise, and 15 seconds stationary at the extreme limits. Small air bubbles were visible during 10 seconds while rising. They could be seen rising but were hardly distinguishable on the surface. The water was clear, and the apparatus was at all times in clear view during the tests.

The depth control device could be designed to operate between any reasonable limits selected. If an excessive depth is prescribed, more air is lost and the length of operation or life is decreased.

The depth-control device is quite simple and is fairly rugged as designed. It is cylindrical—55 centimeters long and 13 centimeters in diameter. The inventor estimates the cost of manufacturing an experimental model to be 1,000 gold marks.

It would appear that the question of balancing the buoyancy would present no serious difficulties which could not be solved in the design. It will be noted that the device would have ample buoyancy to float its own weight. The materials of which the depth-control device is constructed are steel and rubber. The experimental model with which the tests are conducted weighed 8 kilograms. The inventor stated that his figures indicate that the device with an air flask designed for a pressure of 150 atmospheres would weigh about 20 kilograms.

The inventor claims that the functioning of his apparatus is not affected by currents, tides, wave action, rough weather, marked fluctuation in temperature, nor magnetic, electrical or acoustic influences. He considers the most severe test to which his device will be subjected in use under service conditions to be that incident to launching the mine from a considerable distance above the surface of the water from surface mine layers. He states his design will withstand any shock produced in launching the mine. When launched from submarine mine layers there would, of course, be no such shock.

An important advantage of this apparatus as designed is the complete absence of magnetic, electrical, acoustic, and mechanical parts

which might easily become inoperative. It should not be a difficult problem to perfect the design so as to insure the water and air tightness of the few necessary joints.

The tactical advantages to be obtained from several groups of mine-laying submarines, operating submerged, with a battle fleet, justify every effort offering any encouragement for the production of a successful oscillating mine. It is believed the Fischer depth-control device is based upon a simple and sound principle and warrants serious consideration, experimentation, and development by the department.

GERMANY.

PRESENT LIVING AND TRAVEL CONDITIONS.

September, 1923.

I have just finished reading over the Naval Institute proceedings for September and thought I should write you about an article appearing on pages 1508 and 1509 entitled "Germany from within." I think this article is misleading, to say the least, and certainly written for pay. It closely borders on the worst type of out-and-out propaganda.

I have just returned to the ship (September 11) at Bremerhaven, having completed 17 days' leave, during which time my wife and I have worked our way from Riga, Warsaw, Berlin, and out. We spent 4 days in Riga, 4 in Warsaw, and 11 in Berlin. I know that does not add up to 17, but the ship was at Riga before I commenced leave.

The article says: "Every compartment * * * colored poster showing a Ruhr workman." I was in two trains and in several compartments of each. The sign was not present in any. There were no such signs. Neither were they in any street, hotel, or public place that I saw in Berlin, and we did the town pretty thoroughly.

The writer forgets to state that every hotel is loaded with American Jews of a poor type—plenty of money—and that there are about 50 of them to one Jap.

He is correct about the theaters being crowded, but they are not expensive.

"Even for foreigners, prices in Berlin * * * are extortionate." We arrived in Berlin when the mark was falling rapidly. I expected to be charged more at first and average at the end. We had a beautiful great big double room and a real bathroom, with a tub longer than I, in one of the best hotels on Unter den Linden, and it amounted to $4.20 a day. When I settled my first bill it was less than $2 a day (four days), $1.60 a day (three days), about 90

cents the last four. The last night my price was doubled, but even then I only paid 84,000,000, and if I had stayed to buy some money (sounds funny, doesn't it?) that would have been only a dollar and a half, probably less than that now. At the Eden, which compares favorably to the Vanderbilt in New York, we had luncheon for four, consisting of a good martini, hors d'oeuvres, soup, partridge, vegetables, dessert, cognac, and coffee for $7.50. The service was perfect, and I forgot to mention a bottle of champagne and tip. Ordinarily, we paid about 90 cents apiece for a meal in the best hotel.

(NOTE.—The ratio of prices in dollars was about one to six in favor of Berlin.)

"Millions of German people are underfed," and so on, for the remainder of the paragraph. All that we saw were as fat as ever, looked healthy and well clothed—no style, of course. We, as I shall explain later, were particularly watchful for just such a condition. I did not see as much poverty or begging as you see in New York; in fact we were only accosted by a beggar once in 11 days. I saw two "I am blind" men selling shoe strings. We traveled completely across Germany by day. Never anywhere have I seen such large crops, such beautiful, well-kept forests, so many new houses; it looks like the Washington building boom had struck the country. All the people that you saw on the streets looked just like all Germans do—chunky, stolid, and rather fat.

This article looks to me like a well-disguised French hotel keeper's association propaganda to divert American tourists from Germany. But the Jews are all reaping the harvest.

I said just before that I would explain later why we were so watchful. My wife was very anxious to follow the ships on the Baltic cruise. It looked rather simple, although the stops were short. From Denmark to Sweden, to Finland, to Esthonia we heard continually: "Things are very bad in Germany." No one was definite, but everyone agreed conditions were very bad. So by the time we arrived in Riga, Latvia, it looked very much as though I had paddled up a creek and the only way out was through Warsaw, Prague, Vienna, and Paris—distances over here now mean nothing. I had read so much and heard so much more about old starving Germany that I was interested in seeing it and at the same time felt that if anything did happen I could get my wife out, so off we started. Instead of going direct from Riga to Warsaw, it is necessary to go almost to the present Russian border, as there is a war on (mild one) between Lithuania and Poland; so that was rather a long trip, but the train, while not fast, was on time. In Warsaw reports varied somewhat. The Polish secretary from Washington, on vacation, whom I met at a tea, said: "Things are very bad in Germany." The American military attaché frankly said he did not

know, but had heard reports both ways. Well, anyway, we finally decided to take the bull by the horns and push through, expecting to stay one day and then go on to Holland. From all the stories we expected to see seething, hungry mobs more or less insulting to foreigners, beggars, people in tatters, dirt, and a general run-down condition such as Warsaw was in as a result of the war.

Instead we found trains that ran on time. From Berlin to Bremerhaven it is necessary to make 15-minute connection at Bremen, and it is apparently done without trouble. The trains were clean, the stations were spick and span, the crops were marvelous to my eye; from the eastern border to Berlin we continually met new building operations and houses. The people were working the crops, there were many bicycles in use by farmers, the roads looked good. "Well," we said to ourselves, "It is probably the city people who are suffering."

We arrived in Berlin, still met the same signs of prosperity and industriousness; we saw no signs of hardship. We heard on all sides, from the waiters, from a pro-German American woman, from the head of the American department of one of the big banks that "Things are very bad." Upon inquiry they would pin down to the statement that the poor and working classes are better off than before the war, but that the school-teachers, doctors, professional people, and those of fixed income are very hard up, and that seems to be verified from inquiries that other officers made.

No one seemed to have any fear of communism. In general, I heard the following two theories advanced as to the ultimate outcome: First, that Germany would break up into a number of small States, and, second, that France and Germany would shortly form an industrial alliance. This latter was advanced by the military and naval attachés one night at dinner. They thought that England would continue to fight it very hard, as she has in the past, but believed that finally the French iron people and the German coal kings would come to an industrial alliance.

The shops on Unter den Linden, neighboring streets, and big department stores are deserted. We rarely met anyone in them when we entered. The prices in these shops are entirely out of reason. Dresses, gloves, jewelry, furs, and commodities in general were higher than New York. These prices were always quoted to us in pounds; they probably thought we were English, as all the other Americans we saw were Jews. One of the big steamship companies has a map of the world in its window and 96 ships, each with its number behind the map. Then on the map are little tags showing where the ships are all over the world. That looks rather like business being at a standstill! The factories had smoke pouring out of their stacks.

After enjoying ourselves for 11 days and talking to a number of people at dinner parties, the only conclusion I could come to is that no transient is qualified to say anything, that no one knows what is going to happen except that everyone feels communism will never take over, and that the phrase "conditions are very bad" is a good deal like a snowball rolling down a hill.

After reading this over, there seems to be several places where I contradict myself. But everything was so calm and tranquil, so different from what we expected, that it is hard not to do so. I should also add that I think Germany is suffering principally with the idea that she won the war and believes she is winning the post-war struggle. On the face of things and from appearances there seems to be no reason why she can not pay and pay a lot. One American woman asked me when America was going to call off the debt of France. Upon inquiry I learned that she had lived in Germany a long time, married to one, and the idea behind her question was that if we would call off France's debt, France, in turn, would call off Germany's.

SPAIN.

THE STATUS OF TANGIER.

October, 1923.

(Prepared by the War Department, Military Intelligence Division.)

It was announced in press reports on October 5 that the allied experts who have been conferring in London on the status of Tangier have reached a complete agreement for holding a plenary conference on the question. The internationalization of Tangier will form the basis of the discussions, which will probably be begun soon after the conclusion of the Imperial Conference. The negotiations will be confined to Great Britain, France, Spain, and a representative of the Sultan of Morocco. Italy will not be invited.

Several weeks ago representatives of France, Britain, and Spain met for a conference on this subject, at which time it was stated that Spain wished Tangier to be solely within the Spanish sphere of influence, France wished a French protectorate, and Britain maintained it should be internationalized. The French and British delegates were so widely separated on the question, and both so averse to Spanish policy, that the conference agreed to a long postponement, but before it recessed Premier Mussolini informed the delegates that Italy had a vital interest in Tangier and that he expected Italy's case to be heard. Not long afterwards about a dozen Italian marines were landed at Tangier for the avowed purpose of protecting Italians who might be endangered in disturbances that might arise.

It is recognized that the United States, as a signatory of the Algeciras convention of 1912, is free to approve or disapprove whatever settlement the powers evolve from the Tangier problem, and there appears to be a disposition in British diplomatic quarters to welcome helpful suggestions from the United States for the solution of this troublesome question.

Tangier, the well-known North African port near Gibraltar, has been left in isolation and economic distress by the partitioning of Morocco into French and Spanish zones. It is still nominally under the suzerainty of the Sultan of Morocco, but is actually governed by a committee of foreign consuls. Public works are said to be neglected and the natives are left without a municipal government or any appreciable voice in managing their own affairs. The three powers seem incapable of reconciling their differences of principle, and a previous conference on this question broke down in 1922.

The strategic possibilities of Tangier, on the Strait of Gibraltar, at the entrance of the Mediterranean, would appear to be the only reason for Great Britain's unmovable opposition to the political preponderance of France at this port. There is perhaps no point throughout the world where Great Britain's naval defense of her maritime communications might be more open to menace, than by the overthrow of the present strategic position of the Strait of Gibraltar, such as might evolve from the possession of Tangier by some other European power.

The value of Tangier to Great Britain is therefore incalculable. It is one of the chief geographical positions of the world, meriting the title of Western Constantinople. Situated at the point of juncture between the Mediterranean and the Atlantic on a path which, crossing the Caribbean Sea and the Atlantic and passing through the Mediterranean, goes to the east by the Suez Canal, the Dead Sea, the Bab el Mandeb Strait, the shores of Ceylon, and Singapore to the China Sea, past Canton, Manila and Hongkong, and turning to the north toward Nagasaki and Yokohama crosses the Pacific to the port of departure, Panama. Many of the important ports of this great highway are in the hands of Great Britain.

Tangier is also near the meeting of this highway with the other only second in importance, which crosses the Atlantic from north to south, one branch turning to the east toward South America and by Cape Horn to the Pacific, the other branch going to the Cape of Good Hope, Australia and India, and back again through the Red Sea and the Suez Canal.

Chiefly the strategical positions of this double highway belong to Great Britain. The axis of these lines is the Straits of Gibraltar. As soon as Morocco fell under the French protectorate, which oc-

curred by virtue of the treaty of April, 1904, England was committed to three policies in order to protect Gibraltar; the first was to place Spain between France and the Straits; the second was to prevent either from gaining a foothold in Tangier; and the third was to prevent any possible entente cordiale between France and Spain.

The French colonies, protectorate, and mandated territories in Africa have an area which exceeds by nearly 80,000 square miles that of the entire United States, including Alaska, while Spain's 128,000 square miles reaches only a two-thirds of her homeland.

Together with Great Britain's refusal to allow the southern coast of Gibraltar to be occupied by another European power, the Tangier difficulty has considerably hampered Spain in her efforts to cope with the Moroccan question.

SPAIN.

SOME "INSIDE" NOTES OF THE SEPTEMBER REVOLUTION.

October, 1923.

The overthrow of the Government was expected at any time during the last six months, but finally came perhaps a week sooner than intended because the plans were becoming known, and it was necessary to act promptly.

Dissatisfaction with all government of late culminated in this coup d'etat; idleness of officials, innumberable functionaries drawing pay, graft, divided responsibility for the campaign in Morocco, and many other causes are assigned, most of them well founded.

One cause, not substantiated, is that the king and his partner in one and another private enterprise (Romanones, former Premier, particularly wealthy and influential) were anxious to assume direction of affairs in the interest of their own interests. Whatever the final straw, the fact remains that the army is in the saddle, with Captain General Don Miguel Primo de Rivera (very young for his rank and before this coup decorated and awarded titles by the King) at the head, and a directorate is formed of eight generals and one admiral. That they recognize their own limitations is evidenced by their announcements that they want but 90 days in which to clean up graft and inefficiency, then to turn the Government over to selected men of integrity and ability. They lack faith in their own ability to do more than wield the big stick. Herein does the movement in Spain lack all semblance to that in Italy, and the difference is fundamental.

They have no organization for carrying on the government beyond the period of martial law, suspension of constitutional guarantees, and of the Parliament.

For the moment and under martial law everyone wears a smile; the optimistic are hopeful of a new and square deal; but the opposition is only awaiting events.

Unlike France, where three people in four are property owners, Spain has a population of ignorant peasants whose condition in life is closely akin to serfdom, farming fertile soil in which to plant the seed of anarchy and bolshevism. Indeed, centers of such activities are known to exist, as at Barcelona, a manufacturing center, where only competent leaders are lacking. The thousands of ejected office holders form a class of malcontents.

The new Government has ejected from office and from the pay rolls all those in Madrid and elsewhere who, claiming office jobs, had neither desks nor chairs to substantiate such claim. The fortunate ones who had, now report for duty at 9 instead of 11 a. m.

Morocco.—Divided responsibility here has been eliminated by the directorate in appointing one man to the two jobs of commander in chief and of high commissioner.

But the campaign will never be popular and the Government's aggressive attitude at the moment may prove to be only a feeler. Beyond doubt they would be glad to be rid of Morocco and this dreaded question. No one, however, seems actually of a mind to relieve them. The story of England's being ready to trade Gibraltar for Morocco has many listeners because it is based on common sense, in many ways, but it is not likely to be consummated.

Questions confronting Spain to-day.—Morocco—to fight, to get out, to trade off?

Where find the selected few of integrity and ability to form the new Government 90 days hence?

Would men of that caliber be willing to enter a ministry under military domination?

Can the King afford openly to identify himself with any faction, lest said faction suffer defeat and he lose his crown? (Being in San Sebastian at the moment of the coup, and knowing it was coming, he was none the less 24 hours late in reaching Madrid—waiting to see what the Madrid garrison was going to do.)

Can the Spanish temperament be changed overnight to support an honest-to-God government?

Thus we come to a realization of the startling fact that this September coup d'état looks very much like the beginning of troublous times for Spain. Substituting a military directorate for the Government is thought by many competent observers to be but postponing the day of reckoning.

TURKEY.

SUMMARY OF PRESENT SITUATION.

October, 1923.

(Prepared by the War Department, Military Intelligence Division.)

Press reports of October 5 stated that the new Turkish Constitution will provide that Turkey be proclaimed a republic with a president elected for a period of four or five years, the name "Ottoman Empire" being discarded for the simple name Turkey.

The National Assembly will have legislative power only, the executive power being intrusted to a Cabinet, responsible to the Assembly.

A Council of State will fulfill functions usually performed by a parliamentary upper house. The members of this house will be appointed by the President of the Republic.

The Grand National Assembly has increased the terms of its members from two to four years and the term of the President to four years, while the members of the Cabinet are to be responsible to the Assembly as a body. No member of the Sultanate house shall be allowed to hold either civil or military office.

Until the present time, the Nationalist Government has been operating under a fundamental law voted at Angora on January 20, 1921, which was a measurable departure from the old Imperial Constitution of 1876, even as amended in 1908.

The Ottoman Empire was more than 500 years old. This transition from an ancient despotism to a modern republic is probably the longest stride ever attempted by a people at a single step.

On October 14 it was reported that Ismet Pasha's proposal to make Angora the capital of Turkey was passed by the Assembly by a large majority. So, despite the desires of the great powers to keep the Turkish capital at Constantinople, it is certain that the seat of the Nationalist Government will remain at Angora for some years. The lawmakers of Turkey are not to be trusted within the wiles of foreign diplomacy, which Sultan after Sultan found it difficult to withstand. For generations the game of intrigue was played at Constantinople by rival western powers, and palatial embassies were built by the British, the Germans, the Russians, the Austrians, and the Italians. Existence under present conditions at Angora is not alluring to the foreign diplomatic corps, and it may be accepted as assured that no palatial embassies will be erected there in the immediate future. One reason for this is the existing doubt as to the permanency of the present Turkish Government.

During the recent war the Turkish people were welded into an intense nationalism which created a more genuine patriotic solidarity

than Turkey ever before knew. During the years that have intervened since the World War no country in the world has presented a more striking example of national unity. No estimate of the Near East situation can be correct that does not take this fact into account.

The obligatory exchange of populations between Greece and Turkey was reported by the press as having commenced October 12. The details of this movement, involving a minimum of 300,000 Turks and 80,000 Greeks, were arranged by the mixed commission of Greeks and Turks established by the treaty, and which has been sitting as arbitrator in disputes. It is expected that 40,000 persons on each side will be moved during the winter, and the remainder next spring.

Both Greeks and Turks asked America to act in a special advisory capacity in carrying out the exchange to assure fair play and efficiency. Mr. H. C. Jaquith, head of the Near East Relief, has accepted this rôle and has furnished his experienced personnel to supervise the operations. The general poverty in Turkey and Greece increases the inevitable suffering of those exchanged.

As long ago as 1080 the Turks followed a policy of depopulating frontier regions, and it is past history together with present economic conditions in Turkey, due to the deportation of Christian populations, as well as the destruction wrought by the retreating Greeks, which leads many close students of Near East affairs to wonder whether the history of a thousand years ago is to be repeated, and if the country is to lose its feeble hold upon European civilization and slump all the way back into unrelieved orientalism. Present conditions in Turkey can not be considered intelligently without regard for ancient background; to understand the present situation one must regard it as a piece of the past.

Theoretically, there is freedom of religion in Turkey, but all members of the Assembly are Moslems, and Islamism and Nationalism are so intertwined that to arouse one is to arouse both. To-day it is Turkey for the Turks, and when this exchange of populations is completed there will be practically no Christians left in Turkey. Politically, this condition has become apparently a necessity. Economically, it creates a grave question as to the ability of Turkey to carry on successfully as a nation.

Outside of Constantinople the population of the country is now about six and one-half millions. They are almost wholly peasants and officials. Of artisans there are few; manufacturing and merchandising on both large and small scales have been until the present time mostly in the hands of the Christians. Outside the realms of fighting and farming the Turk has still to prove his claim to success. The common people of Turkey are as they have been for ages—

simple-minded, primitive, patient, industrious; living in poverty after the fashion of remote forefathers, they embody the idea of the East, which has survived invasions and revolutions of every description. Their houses are of mud brick, as they were when the first Cæsars marched into Asia Minor. Their interests are narrow and their wants few. Moreover it is estimated that fully 98 per cent of them are illiterate.

The ruins of the cities destroyed by the Greeks in their retreat lie as the latter left them, and it is predicted that so they will remain for years to come if their rebuilding is left to Turkey.

Ages of dependence upon a sultan, a chief, a conqueror, a leader, to settle their problems, to fix their course, and to furnish all initiative have left deep traces in the Turkish character of to-day. Now that the Turks have eliminated the Christians who provided the enterprise and economic aggressiveness of the country, the question of Turkey's capability for successful economic continuance remains an open one.

One of the very first considerations that must be taken into account in every large issue affecting the Turks is the question of the army. This is Turkey's power and pride and peril. What the Nationalist army has done in the past four years almost surpasses understanding. Unfed, unclothed, unarmed, untrained, the Turkish troops stood up against European soldiers and held them off or defeated them. The question now is, will the soldiers go back home willingly to settle into civil life on their farms or will they group themselves as supporters of one or more of the political parties. In any case they are one of the most important factors in the complicated problem of the Near East.

Virility the Turks have and certain other admirable qualities, and education does wonders to-day, compressing into a decade progress that once required centuries. The educated 2 per cent of Turkey's population have displayed a good grasp of world affairs, and, what is more to the point, a gift of leadership and a knowledge of the real needs of Turkey which are encouraging, and their zeal in the country's cause may eventually overcome the tremendous economic handicap that has been incurred by the expulsion of the Christians. At any rate, the whole matter has been removed from the realm of theory by the fact which will have been fully accomplished when the present obligatory exchange of populations is completed.

UNITED STATES.

ESTIMATE OF THE MAN POWER OF THE UNITED STATES.

October 23, 1923.

(An estimate prepared at the Army War College.)

I. Survey of the Population of the United States.

A. ESTIMATE OF POPULATION.

The estimate of the population of the United States and of its dependencies are made as of January 1, 1924.

Continental United States.

Total population	111,236,000
Males	56,528,000
Females	54,708,000
White	99,780,000
Negro	11,012,000
Indian	245,000
Japanese	127,000
Chinese	60,000
All other	12,000

The population of the United States possessions is estimated to be 12,973,000, of which slightly over one-half are males. This gives a total estimated population of the United States and its possessions as 124,209,000.

The urban population of continental United States for the 1920 census was 51.4 per cent.

B. AVAILABLE MANPOWER INCIDENT TO A MAJOR WAR COMMENCING WITHIN THE NEXT SIX MONTHS.

1. For Continental United States, it is estimated that —

A selective service law as now proposed would make available for service with the armed forces, after all deferments have been taken of, Class I males	7,943,000
At present in Regular Army, National Guard, Navy, and Marine Corps	403,000
Total available	8,346,000
It is estimated that the United States possessions could, dependent upon circumstances, make available for service with the armed forces physically fit males, 18–45	700,000
Possible total	9,046,000
Probable employment of women with the armed forces as above estimated	350,000

2. If the physical standards were lowered and a more rigid policy relative to deferments practiced, the number of available men shown in the preceding paragraph would be increased as follows:

Assuming 50 per cent of the males, 18 to 45 years old, as available, a war requiring the maximum effort on the part of the United States would place in service with the armed forces	13,565,000
Assuming a replacement of males, 18 to 45, in deferred classes, with women to a final extent of 2.5 per cent of the total population, this force could be increased by	2,780,000
At present in Regular Army, National Guard, Navy, and Marine Corps	403,000
Total	16,748,000

This number is considered to be beyond the needs of the nation in any conflict that may, at present, be visualized.

Assuming 16,750,000 men, 18 to 45, with the armed forces, it is estimated that there could be employed with the armed forces 675,000 women.

Summary by corps areas.—Estimate of results of draft, as proposed.

1	2	3	4	5	6	7
Corps area.	Males 18 to 45.					
	Total males.	Subject to draft.	Estimated, Class I.			Maximum effort, Class I, plus limited-service men.
			Total.	White.	Colored.	
First	3,835,583	1,937,503	526,996	520,202	6,794	968,752
Second	7,257,852	3,792,913	1,065,939	1,033,875	32,064	1,896,456
Third	6,830,778	3,316,413	926,428	820,636	105,793	1,658,205
Fourth	8,499,745	3,568,479	1,122,387	718,288	404,099	1,784,240
Fifth	6,760,388	3,236,178	989,218	934,388	54,830	1,618,089
Sixth	6,996,067	3,507,930	911,973	887,235	24,738	1,753,965
Seventh	7,534,863	3,467,076	1,078,133	1,019,875	58,258	1,733,538
Eighth	4,618,191	2,110,657	564,352	503,933	60,419	1,055,329
Ninth	4,194,228	2,193,043	757,307	750,681	6,626	1,096,521
Total	56,527,695	27,130,192	7,942,733	7,189,113	753,620	13,565,096

3. *Men available for industries.*—Under the assumption that 7,943,000 Class I men are called to the colors, the males 18 to 45 years of age available to meet the economic needs of continental United States incident to the war and necessary to the ordinary life of the people would be 19,187,000.

In addition, there would be available to meet these needs all men under 18 and over 45 years of age as well as nearly all of the physically fit women. Combined agricultural and industrial defermants during the World War amounted to 4.7 per cent of the total classifications. Present policy is to grant no deferments for agricultural and industrial purposes to men below age of 31.

Women were not employed to any great extent with the armed forces of the United States during the World War, and, while there was considerable increase in the employment of women in industry and agriculture in the United States during that time, this increase was small when compared with the experience of Great Britain.

Under the assumption that 16,748,000 men were called to the colors, there would be available to meet the economic needs of the continental United States, males, 18 to 45 years old, 10,382,000, plus males below 18 and above 45 years old and all able-bodied women less 675,000.

4. Of the 3,261,700 trained, or partially trained, men in the United States Army on November 11, 1918, it is estimated that 2,133,000 would be subject to draft under the selective service law as proposed.

Each year as the war continued there would be added to the armed forces about 850,000 18-year-old men from the total of about 1,000,000 youths reaching that age.

5. *Conclusions.*—In a major war the United States could make available for service with her armed forces between eight and nine millions of her males of military age without serious interference with necessary industry and agriculture and without the necessity of exploiting her woman power to any great extent.

Considering physical deferment only, and assuming a replacement of men, 18 to 45, with women, in industry and agriculture, to the extent of 2.5 per cent of the total population, the maximum availability of the military man power of continental United States is estimated to be about 16,750,000 men. This number is considered in excess of the needs of the Nation in any war at present and could not be made available for combat service without serious interference with necessary industry and agriculture.

II. Legislation, Regulations, and General Method of Procurement.

A. THE CIVIL WAR.

When it became necessary to increase the Army at the outbreak of the Civil War, the only law which could be found authorizing the raising of troops was one of 1803 providing for calling out the militia of the District of Columbia for local defense, so that the first two calls on the States in 1861 for volunteers and for recruits for the Regular Army and Navy were clear usurpations of power by the President, since under the Constitution the authority to raise troops is in Congress. After many failures and defeats, due largely to relying on the volunteer system, a law was passed in 1863 providing for enrolling all citizens capable of bearing arms and for calling them forth by draft when required, although drafted men

might furnish substitutes, and volunteering and bounty paying were still allowed. Of the 2,960,000 men raised during the Civil War, only about 170,000 were drafted men and substitutes, but the combined threat of draft and offer of bounties stimulated the enlistment of many so-called volunteers. Civil War experience showed: (1) The need in emergencies of standing legislation authorizing the Executive to raise troops without waiting for Congress to act; (2) the weakness of relying on bounties, substitutes, and short-term enlistments; (3) the folly of accepting new organizations, raised from time to time by States and individuals, instead of recruits to restore veteran organizations to strength; and (4) the necessity for systematic enrollment and draft and the inadequacy of the volunteer system in a major war.

These Civil War lessons were slow in sinking in, for as late as 1915 our forces were defined by law as consisting of the Regular Army, the Organized Militia, and such volunteers as Congress might authorize, and an officer was relieved from duty in the War College Division of the Office of the Chief of Staff because he rashly prepared and advocated a draft plan.

B. THE WORLD WAR.

About a month and a half after the President had recommended the declaration of war against Germany, Congress passed the selective service act, which had been prepared by the War Department, and under which the National Guard generally was brought into the Federal service, and the process of raising men by voluntary enlistment, enrollment, and draft was effected. Under the act as amended the draft ages were from 18 to 45, inclusive, and the men available for call were numbered and their order of call determined by lot, except that a man found by the local draft board to be an idler or engaged in a nonproductive occupation was liable to immediate induction into the military service. During the World War 24,234,000 men were registered, and when hostilities closed there was at hand a supply of fighting men sufficient to meet every necessity, but the speedy and systematic development of our man power had suffered (1) from lack of authority in the Executive to raise troops until Congress could discuss and adopt necessary legislation, (2) from the extent to which volunteering was allowed to interfere with the draft, and (3) from deliberate evasions of military service through industrial and agricultural employments.

C. FUTURE WARS.

The War Department is seeking to avoid as far as possible the handicaps under which we labored in the World War by a draft

law which it has in course of preparation, and which it is hoped Congress will presently pass. Under this law the President may set the draft in motion whenever Congress declares the existence of an emergency; all males between 18 and 45, inclusive, are to be registered; persons inducted into the service are to serve until six months after the emergency has terminated, unless sooner discharged; no bounty is to be paid or substitute allowed; conscientious objectors must serve as noncombatants; there are to be no industrial or agricultural deferments of persons under 31 years of age, but persons below that age indispensable to industry or agriculture may be furloughed until they can be spared; any registrant may be called for combatant duty; everyone fit must work in some useful occupation or fight; and the powers of and participation in the draft by local boards are increased to the end that the draft may be handled locally as far as possible and favorable neighborhood pressure employed to the utmost. Under this law a draft is planned beginning 30 days after M day, the first 24 days having been given to recruiting, followed by a 5-day interval. Thereafter no voluntary enlistments will be allowed.

D. QUESTION OF THE CONSCRIPTION OF LABOR.

Labor is not drafted as such under the provisions of the proposed law above referred to, and the need for such a draft was not felt in the World War, where the work-or-fight rule and certain labor shifting regulations were found to answer every purpose. The conscription of labor would inevitably lead to a demand by labor for the conscription of the professions, trades, and business generally, and we might find ourselves drifting from democracy into something very like socialism, with the problem of resuming normal life conditions after the war enormously increased. Our emergency measures should be limited to the minimum necessary to win the war in which we are involved, and the conscription of labor as such is unnecessary and highly inadvisable.

III. Psychology.

A. AS AFFECTING LEGISLATION AND PROCUREMENT.

The reaction of Congress and our man power to any given war will depend largely upon the justness of the cause. Idealism is a marked characteristic of American psychology in war. No trouble of moment is to be expected from foreign-born citizens. Since the World War greater activity has been manifest in Americanizing this class and immigration has been much restricted. Radicalism is less threatening than it was some years ago. Organized labor will stand loyally behind the Government, as it did during the war against

Germany. Women will assist in war activities to a much greater extent than ever before. And the draft system, found in our last experience to be so eminently fitted to the needs of the Nation, will operate with a still higher degree of efficiency, so that the morale of the combatant forces may be expected to be excellent.

B. AS AFFECTING STABILITY AND EFFICIENCY UNDER STRESS OF LONG WAR AND DEFEATS.

National morale may be said to be the ultimate controlling factor in war. High morale may be defined as the will to win and is mainly founded upon faith in the ability to conquer. The two longest and most bitter struggles in our history, in each of which we suffered numerous defeats, were family affairs fought against people of our blood and tongue at a time when considerable minorities among ourselves did not favor the objects for which we were fighting. Yet the will to win remained and carried us successfully through the most discouraging conditions. We have never had to go down to final defeat even when we were few and poor, and out of this past, together with our great increase in numbers and enormous development in wealth and resources, has come an assurance of national invincibility. We have more than once proved ourselves capable of prolonged endurance, and an enemy of distinct race particularly would find us enterprising, persistent, and stubborn to a degree and in the end not to be denied.

IV. Recruitment Rate.

A. MAXIMUM RATE.

1. The term "maximum effort" as used in the study of the recruitment rate is taken to mean the maximum effort that could be made without serious interference with essential industries, and contemplates calling to the colors a total of 8,350,000 men. The date upon which a mobilization is ordered is called M day. It is assumed that a draft law will be passed by M plus 5 days, and that all voluntary enlistments, except of men outside the draft age, will cease by M plus 1 month.

2. The threat of a maximum emergency will probably be apparent sometime before M day, and when that threat becomes apparent all components of the Army of the United States will concentrate upon the securing of recruits until voluntary enlistments are stopped. It is estimated that with all units of the Regular Army, National Guard, and Organized Reserves bending all their efforts toward recruiting that voluntary enlistments will be obtained at the following rate.

	Men.
During the month prior to M day	160,000
During the month after M day	500,000

3. The rate of 500,000 per month is only 5 per cent greater than the recruitment rate maintained by the North for the first seven and one-half months of the Civil War, when the Civil War figures are converted to the estimated population of the United States as of January 1, 1924.

4. The maximum number of men inducted in any one month during the World War was 452,000. That figure converted to the estimated population of the United States as of January 1, 1924, would be 500,000. It is estimated that in a war of maximum effort the draft system could produce at least 50 per cent more men than that monthly by M plus four months, or 750,000 men.

5. The table given below shows the rate at which the available man power can be recruited, disregarding matters of supply and training. After M plus 12 months the only increments are from the men who reach 18 years after that date.

Strength and recruitment rate of Army of the United States.

Date.	Components of Army of United States.	Strength of each component on date shown.	Total strength on date shown.	Monthly increment.
M−1 month	Regular Army in United States	82,200		
	National Guard	154,000		
	Organized reserves	2,000		
	Total Army of United States		238,400	
M day	Regular Army in United States	112,000		30,000
	National guard	205,800		51,600
	Organized reserves	82,000		80,000
	Total Army of United States		400,000	
M+1 month	Regular Army in United States	202,200		90,000
	National Guard	355,800		150,000
	Organized reserves	342,000		260,000
	Total Army of United States		900,000	
M+2 months	Total Army of United States		1,050,000	150,000
M+3 months	do		1,350,000	300,000
M+4 months	do		1,850,000	500,000
M+5 months	do		2,600,000	750,000
M+6 months	do		3,350,000	750,000
M+7 months	do		4,100,000	750,000
M+8 months	do		4,850,000	750,000
M+9 months	do		5,600,000	750,000
M+10 months	do		6,350,000	750,000
M+11 months	do		7,100,000	750,000
M+12 months	do		7,850,000	750,000
M+13 months	do		7,920,000	70,000
M+14 months	do		7,990,000	70,000

6. The foregoing table does not include the Navy requirements for men which will total 500,000. It now has 100,000 men in the regular service and naval militia, and it is estimated that 100,000 more would be secured by M plus one month. The draft would have to furnish an additional 300,000 men.

Adding these 500,000 men of the Navy to the 7,850,000 men obtained for the Army by M plus 12 months, as shown in the above table, gives 8,350,000 men which is the total available according to paragraph I. B. 1.

GENERAL.

A REVIEW OF CERTAIN ASPECTS OF THE WILLIAMSTOWN INSTITUTE OF POLITICS.

September, 1923.

1. It is believed that it is well worth a naval officer's time to attend the Institute of Politics at Williamstown. Not only does he get the civilian and foreign points of view, but he is able to correct false impressions regarding the aims and usefulness of the naval and military professions. Most of those in attendance believed that war is forever over, and our naval representatives were able to show that such opinions are not based on facts or history.

2. The four lecturers were: Sir Edwin Grigg, secretary to Mr. Lloyd George, Canon Ernest Dimnet of France, Count Harry Kessler of Germany, and Dr. E. S. Zeballos of Argentina. The two open conferences were led by Mr. Philip Kerr, secretary to Mr. Lloyd George at the peace conference, and Mr. W. S. Culberton, vice chairman of the United States Tariff Commission. In addition there were eight round table conferences conducted by experts in their respective fields.

3. Sir Edward Grigg and Mr. Philip Kerr devoted their efforts largely on the past and present policies of the British Empire, showing how benevolent and disinterested Great Britain has always been in its growth and in its treatment of smaller nations. Whenever opportunity offered, the point was emphasized that it is America's duty to take an active and leading part in the rehabilitation of Europe.

4. Canon Ernest Dimnet presented France's policies, particularly regarding the Ruhr occupation and the question of reparation.

5. Count Harry Kessler presented Germany's side, protesting violently against the Ruhr occupation, picturing the deplorable state of the German people and her inability to pay the huge indemnity imposed.

6. Doctor Zeballos, after sketching the history of Argentina, and showing the wealth of this great country, aired his grievances against the United States. He spoke of the amazing ignorance of America regarding his country, said that better State Department officials should be sent to South America, and blamed the United

States for sending a naval mission to Brazil, stating that such a mission tended to breed distrust among the other South American Republics.

THE RUSSIAN ROUND TABLE.

7. The round table on Russian affairs was conducted by M. Boris Bakhmeteff, the Russian ambassador to the United States under the Kerensky régime. M. Bakhmeteff was born in Tiflis, in the Caucasus region, his parents having emigrated from the Ukraine. He was trained to be a hydraulic engineer, and is now engaged in foreign trade in New York. He is a socialist of the milder type and believes in our institutions, hoping that Russia will model herself after the United States. M. Karpovitch, secretary to the Russian Embassy during the Kerensky régime, also a native of the Caucasus, was a member of the Russian round table. John Spargo, a Welshman by birth, but now an American citizen, a writer on Russian affairs, was also a member of this round table. The round table met three times a week. M. Bakhmetek opened each morning's meeting with a lecture lasting about 45 minutes, after which general discussion took place for about 1 hour and 15 minutes.

8. The following were the main points brought out in the conferences:

POLITICAL AND SOCIAL BACKGROUND OF THE RUSSIAN SITUATION.

The revolution was characterized as a virulent disease which attacked Russia, from which she is now convalescent. She reached the crisis in 1919 and 1920, descending to the depth of barbarism, but is now on the upgrade. The malady is over. The Russian revolution in its destructive stage has run its course. Conditions have not yet become stable in Russia, but the next five years will bring many great changes. A constructive change is already beginning, and a new house is being built up in Russia.

The lecturer emphasized the difference in the objective of the peasants and the communists in Russia. He said that the peasants had no sympathy with the communist doctrine of nationalization of property.

In 1917 the peasants took the land, and that was all they wanted. They then became conservative and since 1919 a great cleft has been growing between the communist system and the peasants. The communist decrees of 1918 and 1919 laid down a program whereby the State was to look after the proper distribution of land products with paternal interest, whereas the peasant was to till the land, keep a minimum of its products for himself and his family, and give the surplus to the State to feed the proletariat in the cities and the army and to finance the cost of government through the sales of

grain. Those decrees for socialistic production of the land are almost obsolete now. The attempt to inaugurate such a system by law caused a great struggle between the Red State and the peasants, which resulted in the great departure of March, 1921, when Lenin proclaimed the new economic policy, which meant the end of pure communism. Lenin was compelled to make this great departure from the Marxian doctrine because the peasants refused to give up their surplus to the State. Armed attempts were made to collect the grain and the peasants sprang up in spontaneous revolts.

Next came legislation that reached a climax with the land law of October, 1922, which introduced the practice of permanent land tenancy to meet the demands of the peasants for individualism. This gave the peasants the right to till a certain area of land for life. Its result has been to cater to the growing spirit of individualism and to bring about an upturn in agricultural production.

Another important factor in the source of the revolution was that of social privilege in Russia under the old régime. The atrocities of the Red terror in 1919 were the result of envy and the desire for revenge because of the great social inequalities under the old monarchial system. It was merely social madness. The Russian people ordinarily are a lawful, mild, kind people, and they did things that were not characteristic of them at all.

In 1914, 18 per cent of the land was owned by landlords and 82 per cent by the peasants. After the revolution the communistic government exacted from the peasants a large part of the grain for government use. Naturally the peasants refused, without a struggle, to give up their surplus without payment and began cultivating only enough grain for their own use. This state of affairs brought on the great famine which has just ended. The land laws of 1922, which give the peasant the right to till certain areas for life, have given him permanent land tenancy, and this will further encourage him to grow larger crops.

Equality of opportunity does not exist in Russia to-day, although the communistic system is claimed to be based on social equality. The social revenge has now run its course, and equality of opportunity will gradually be achieved by the masses. The Russian peasant is gradually becoming a farmer instead of merely a peasant.

Russia now consists of 7 per cent communistic and 93 per cent nonpartisan, or taking no active interest in politics. She is gradually working toward a decentralized government, as there is very little money to support a strong central government and it is believed that Russia will eventually break up with a large number of States loosely bound to the central government, and similar to the American colonies. Gradually the bonds between the States will become stronger, and centralization will begin. The middle classes

of Russia now bear the burden of the revolution and suffer the most. The peasant has always had his land, is by far the most numerous, but lives like he did in the middle ages. He is the main factor in the upbuilding of Russia but is dissatisfied. He is ready to be used, but can not act alone. Gradually he will grope his way along and join hands with other more educated groups and effect an evolution to a better and more prosperous Russia.

A United States of Russia, founded upon the ideal of service, was declared to be the probable outcome of the revolution and soviet supremacy. Tendencies in this direction are already apparent. Conditions are becoming more favorable to all classes of people in Russia. Professional people—professors, teachers, and others—who two years ago were seeking to escape from Russia to avoid execution are now unwilling to leave. Russia's transformation and reawakening are so fascinating and so rapid that the " intelligentsia," who short months ago feared for their lives, to-day are eager to remain and have a part in this renaissance.

This transformation of Russia, which is already beginning, will be rapid. Russian life is simply organized. It does not require as long to rebuild a four-leg table as to remake a clock. Russia being of the four-leg table type of national construction, will be rapidly reconstructed once the process is begun. This transformation which we see beginning is not a transformation of central government. It is a transformation which is taking place in the local peasant unit—comparable to American townships—and is directed against the central authority at Moscow. To recognize the central government would merely give comfort to the forces which are opposed to this peasant renaissance. Decentralization of authority is already well under way. The communists, though strong in the upper branches of the soviet or organization, have been practically driven out from the peasant local units of organization by nonparty representatives. These nonparty representatives, knowing the futility of opposing the central government, have undertaken a program of passive resistance against it.

Whereas in the old days of the Tsar's régime the peasant expected everything from the outside and knew no other course than to accept an imposed government, he is learning to-day to stand on his own feet and speak for his own rights. This is a great step in advance. In this fact lies the basis for the development of a real democracy in Russia.

Another point strongly stressed in the discussion was that the forces of new Russia are largely mental. Mechanistic power has failed to accomplish the transformation of Russia. Mental forces, however, are accomplishing that result. There is but little chance that ever again a centralized autocracy will be able to impose its

tyranny upon the Russian people because of this moral and mental power which has arisen and which would stand against any such imposition.

THE NEW ECONOMIC POLICY OF N. E. P.

After the revolution the workers took over all factories and failed, then the communistic government took charge under the N. E. P. The discussion developed a unanimity of opinion among the members as to the inefficacy of the N. E. P., or new economic policy adopted by the soviets to restore trade. John Spargo, writer and former socialist leader, called it "political opportunism raised to the nth degree." For a short time the N. E. P. produced results. It evoked great enthusiasm and speeded up production. Toward the end of 1922 this hope and enthusiasm dwindled, and in 1923 the N. E. P. was in a state of exhaustion. In the second half of 1922 there were approximately 28,000 industries in Moscow, but in the spring of 1923 these had been reduced to 12,000. The increase in production was not economically sound. Trotzky admitted that the state industries worked at a loss. Production cost 289,000,000 gold rubles and the sale of products netted only some 210,000,000 to 240,000,000. The system required the peasants to pay for running industries which were not commercially profitable.

In 1921 Lenin and other leaders realized and admitted that for the present there was no hope for a world-wide revolution, and began a policy of retrenchment to start economic production—principally by adopting measures to pacify the peasants. The following were the principal changes which became effective under the N. E. P.:

(1) Life-long tenancy to peasants of a limited amount of ground to each peasant.

(2) Peasant allowed to sell his surplus.

(3) Local trade allowed.

(4) Large industries to be a state monopoly, as well as all foreign trade.

The whole matter was merely tactics adopted by the leaders to prevent total disintegration. Trotzky declared in April, 1923, that Russia's plan has been, is, and always will be for a world-wide revolution, but that she is only waiting a more favorable opportunity.

By the end of 1922 the faint hopes of the people began to fall. The government taxes smothered trade and industries. The peasant was the only producer, so he had to pay to make up for losses in the industries run by the government. Yet in spite of the losses sustained by every government industry, each small merchant or manufacturer made a profit. Hence individualism succeeds in Russia, while state control fails. It is now necessary for the government

to make further concessions to the peasant and the small merchant or face collapse. The leaders realize this and will gradually grant the necessary concessions, which will in time rob the central government of most of its power and build up the strength of the smaller units.

Russia's economic "come back" will be slow, in keeping with the character of the people. She has lost her purchasing power and will be an economic liability for the next few years, asking for more than she can give. She has enough room and resources within her boundaries to develop entirely within herself. Therefore, internal economic progress will engross the Russian people for the next few generations and she will have scant time to mix in the affairs of other nations. Her great desire will be for peace and, unless she is denied access to the sea by other nations, she will always be peaceful.

RUSSIAN PATRIOTISM.

It is said that Russia lacks patriotism, but hers is purely defensive, and is growing. No Russian army could fight with any success outside her boundaries. General Wrangel's army was defeated by Russian patriotism, the Russian people believing that his army was an invasion by foreign capitalistic governments. When the Poles invaded Russia, General Brusiloff, an Tzarist, came from seclusion and commanded the army which beat back the Poles. The Russian advance in Poland failed due to the poor morale of the troops on an offensive campaign. The Russian Army is not the rabble that correspondents would make it. It is sufficient to threaten and hold in check the border States of Rumania and the Baltic States, as well as to beat back Denekiam and Wrangel. It is also sufficient to check riots among the population and to enforce collection of taxes. Contrary to many statements, the army is not officered by Germans, all higher commands being held by native Russians, most of them being fanatically communistic. There are, however, quite a few soldiers of fortune, mostly Germans, who have minor commands. The Germans did develop the Russian air force.

RUSSIAN FOREIGN POLICY.

The Straits will always be of vital interest to Russia, and as Russia was ignored at Lausanne this question will always be a bone of contention. As Russia is not now governed by a responsible government, the question of the Straits will have to wait for a final settlement until Russia is once more a reputable member of the nations of the world. The treaty is only a makeshift, which must be changed.

Public opinion, even among the communists, is very bitter against the settlement of the present Polish boundary, and this will be an irritant for future wars or contentions. Also the loss of Bessarabia is galling to Russia. The leaders of Russia are incensed at the Allies on account of the shabby way which Russia was treated at Versailles. Also, although Russia bore the brunt of the war for the first 18 months and lost about 46 per cent of the total casualties, she felt that she had been thrown down by the Allies in the peace settlement in the matter of boundaries, by taking advantage of Russia's prostration. This fact is used as propaganda in Russia to maintain and keep alive Russia's hatred against a "manevolent and capitalistic Europe."

Russia harbors no bitterness against Esthonia, Latvia, and Lithuania for having left Russia and having set themselves up as independent States, but feels that these countries will eventually return to Russia by peaceful annexation.

CONCLUSIONS.

9. Russia is now confined by a light shell of communism. She will eventually burst forth from this shell as a strong agricultural nation. Russia's rehabilitation is of stupendous moment to the whole civilized world, and no sense of stability or security can be felt until Russia has settled down into a respected member of the world's great nations. This Russia is sure to do, as she has 10 centuries of culture and history behind her which she can not shake off.

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Officer.	Initials.	Date received.	Date forwarded.
CAPTAIN			
EXECUTIVE OFFICER			
FIRST LIEUTENANT			
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FIRST DIVISION OFFICER			
SECOND DIVISION OFFICER			
THIRD DIVISION OFFICER			
FOURTH DIVISION OFFICER			
FIFTH DIVISION OFFICER			
MARINE OFFICER			

The material for the Bulletin is largely derived from service sources and its interest and value are correspondingly dependent upon the number and character of the reports received by the Office of Naval Intelligence from our own officers. In this connection the observations of officers afloat are of great value, particularly if the reports rendered are drawn up in accordance with existing intelligence instructions.

While political and economic information is undoubtedly of much use, the collection of military information should come first in the intelligence work of cruising ships.

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GREAT BRITAIN.

A REVIEW OF CERTAIN ASPECTS OF THE IMPERIAL CONFERENCE.

November, 1923.

Prepared by the War Department (Military Intelligence Division).

Both official and press reports issuing from the Imperial Conference in session in London have for the past fortnight been somewhat meager and obscure.

So far as can be learned the keynote of the conference thus far has been to develop the resources and maintain the markets of the British Empire. Since the opening of the conference numerous speeches have been made on the subject "Concentrate on the Empire."

"We must never again be caught in a war depending upon foreign nations for our food and raw materials," said Mr. Bruce of Australia.

One of the premiers is quoted as saying: "We have 10 self-governing States within the Empire. Why not have the same relation between them as there is between the 48 self-governing States of America?"

The obvious conclusion to be drawn from many reports and remarks issuing from the conference or owing their origin to its influence is that there will soon be a tariff placed on foreign goods and the breaking down of all tariffs between the British countries.

This conference has served to awaken a strong sentiment in favor of the self-sufficiency of the British Empire. The British papers have voiced this sentiment most heartily and openly. Britain is turning to her own dominions for help and is treating them more and more as equal copartners in the Empire. It now seems as if the immediate effect of the conference will be to keep British capital inside the Empire and to place Britain in a position in which she will buy less and less goods from the United States and other outside countries.

There is a large group of isolationists in Britain whose policy is formally to end the entente with France, withdraw the troops from the Rhine, and to allow Europe to work out her own destiny until conditions become so intolerable as to force the continental nations to come to terms with one another. Much of the leading of this isolationist movement comes from the highly organized group of

ardent imperialists who are determined to find some formula which will consolidate all the British nations into an organic political unit. They know that the sentiment of the dominions as far as these Old World problems are concerned is predominantly isolationist—they do not want to be involved in them—and the isolationists argue that it will facilitate the solidifying of the empire along the lines they favor if Great Britain jettisons entanglements and commitments which would occasion alarm in the dominions if it were suggested they should accept a measure of responsibility for them. There is also said to be a distinct hope on the part of the British who advocate isolation that this attitude would bring the British Empire and the United States into closer and more sympathetic relations. The isolationist movement in Great Britain is therefore away from Europe toward the dominions and secondly toward the United States.

At the meeting of the conservatives in Plymouth on October 25 both Premier Baldwin and the British Chancellor of the Exchequer, Mr. Neville Chamberlin, declared for a protective tariff as a solution of the unemployment problem in Great Britain. Both admitted, however, that the Government was bound by former Premier Bonar Law's pledge of a year ago that there should be no fundamental change in the fiscal arrangements of the country in the life of the present Parliament. Political experts believe that any vigorous protectionist campaign would inevitably lead to the Government's being challenged, and hence to a general election. Should the conservatives raise the protectionist banner, it is believed they would have against them the whole liberal force. The stand of labor in that contingency is uncertain. Generally speaking, British laborites are free traders, but some observers believe labor might split over this question—the conservatives winning some support from the branches of labor that would be benefited by a high tariff. The Government's pronouncement comes after lengthy debates on the subject of trade in the Imperial Conference, where the dominion premiers have urged the necessity of developing trade between the various branches of the empire as against trade with foreign nations. It has been argued that the establishment of tariffs favoring the dominions would increase the interempire commerce. In advocating protection, Mr. Baldwin would have to face a formidable body of economic and financial opinion in England.

British economists and financiers can not overlook the special situation which England has made for herself in the world. She does not grow enough food for her own support. She has to draw across the seas the raw materials for her manufacturing plants.

England has become the typical example of an industrialized nation, dependent upon foreign trade. Even a modified and care-

fully graduated system of protection would expose Great Britain to the loss of at least a part of the commerce which is vital to her very existence. It will be remembered that fears and arguments of this nature defeated Joseph Chamberlain a score of years ago when he undertook to commit the Conservative Party to protection.

Within limited bounds imperial preference may be successful. It is partly due to it that the amount of British sugar consumed in Great Britain rose from 7 per cent of the total before the war to 27 per cent in 1921–22. England is encouraging British cotton growing with some success. In 1915 she bought £17,481,000 worth from within the empire, £47,189,000 worth outside; in 1921 the figures were £23,000,000 and £50,400,000 respectively, an advance from 27 to 32 per cent. But a committee of the Federation of British Industries recently condemned the opinion that Britain could be restored to economic health by a full development of interimperial trade. It declared that the empire can never be self-contained, that its trade is international and interdependent, and that not until continental Europe—a market for India and Canada as well as England—recovers can empire trade be vigorous; an apparently sensible conclusion.

JAPAN.

DAMAGE TO NAVAL ACTIVITIES DURING THE EARTHQUAKE AND FIRE DISASTER OF SEPTEMBER 1, 1923.

October, 1923.

The navy department has not yet completed a survey of damage to naval activities, and accordingly no true estimate can be made of the material loss, though the press state it amounts to about 100 million yen.

The naval loss in Tokyo consisted of the Hydrographic Office, the Engineering Academy, Naval Medical College, Paymaster's School, Naval Technical Laboratory, Naval Museum, and model basin. Of the above, the Technical Laboratory is considered to be the greatest blow, for with it were lost a great many technical models gathered abroad such as aviation parts, range finders, electrical equipment; also a great many pieces of a technical nature manufactured in Japan. The model basin at the Mitsubishi Dockyard, Nagasaki, will probably prove a substitute for the one lost in Tokyo, at least for the present.

All dockyards between Tokyo and Yokohama were severely damaged. The Asano is the least injured, but will require substantial

rebuilding. The others, Ishikawajima, Uraga, and Yokohama Dockyards will all require practically complete rebuilding. No definite information has been learned of damage to ships building at Ishikawajima. It is very difficult to obtain exact information about ships building at these yards because reports are greatly at variance and it is not considered politic to request permission to visit the yards on the eve of the disaster. From a very good source, however, I learned that a destroyer had been launched at Uraga one hour before the earthquake and that she escaped uninjured. At Yokohama Dockyard the light cruiser *Naka* was severely damaged. It is believed that there is little hope for her salvage and that work on her will be suspended.

Original reports indicated Yokosuka completely destroyed. My decision to delay reporting these items seems to be justified in the case of Yokosuka. The latest information which I have received and in which I put great confidence indicates that Yokosuka is not completely wiped out. The earthquake shook down many of the machine shops but did not injure the machinery to the extent at first believed. Most of these buildings were very old and replacement by new buildings had been contemplated. It is believed that many of the machines will be salvaged. My informant states that the dry docks were not seriously damaged; that they were dug out of rock bed and that the rock bed moved as a whole during the quake thus saving the docks. Also, the building ways can be repaired.

The *Amagi*, which was being converted into an airplane carrier, slid half way down the ways, was twisted badly and the navy department states in a press report that salvage of the *Amagi* is doubtful and that conversion of the *Tosa* or *Kaga* may be considered in place of the *Amagi*.

The *Mikasa leaked* so badly that in order to prevent her sinking she was run aground off the port of Yokosuka.

The entire oil reserve of about 100,000 tons burned for nine days and was a complete loss.

No detailed information can be obtained regarding fortifications, but ships entering Yokohama report that the entrance fortifications are shaken to pieces and gun emplacements are at all angles.

The powder factory at Hiratsuka was destroyed; the loss to reserve powder has not been learned but has been rumored to be considerable.

The navy department stated that the destroyers building at Ishikawajima and Uraga dockyards were not destroyed, and that the damage to Yokosuka was from earthquake and not fire and that a great amount of salvage can be accomplished there.

JAPAN.

EXPERIENCE WITH THE JAPANESE AND SOME POINTS OF THEIR WEAKNESS IN THE EMERGENCY OF THE EARTHQUAKE DISASTER.

October, 1923.

Soon after my arrival in Tokyo I was sent to Yokohama to investigate conditions there, to search for Americans, dead, alive, or missing, to establish a suboffice there for the embassy for handling matters pertaining to Americans needing relief, and to establish communications with the embassy.

It seems unbelieveable that on September 3 Tokyo knew nothing of the particulars concerning friends in Yokohama, 18 miles away. There was no communication between Tokyo and Yokohama except by foot.

An appeal to the Japanese Navy Department for transportation by water was received with much seriousness on behalf of my safety. They said that there was no place in Yokohama to stay, that the Koreans were murdering survivors, and that the Japanese were in arms against Koreans. However, after learning that I had to go to Yokohama on foot if not by their help they very kindly sent me by destroyer.

Upon arrival in Yokohama I found a British merchant ship, *Empress of Australia*, and a French merchant ship, *Andre le Bon*, giving refuge to all foreigners and a great many Chinese and Japanese. I went aboard the *Empress* boat to look up American survivors and gather available information. Some of the leading Americans told me very frankly and sincerely that they were embarrassed by all the British had done for them on the *Empress of Australia*; that furthemore, the British man-of-war *Hawkins* would be in Yokohama the following morning, if not sooner, and that they hoped our embassy would cable for a warship from our Asiatic Fleet. They did not then know that our fleet was speeding to their rescue and they were extremely happy the next morning when a man-of-war under full speed entered the harbor flying an American instead of a British flag.

Then began the American relief.

The U. S. S. *Stewart*, in command of Lieut. Commander McCleary, was the first foreign man-of-war to arrive in Yokohama. Upon boarding her I was told that Division Thirty-eight, with Captain Lincoln, would arrive in about four hours and that the *Stewart* had come ahead in order to investigate conditions for the immediate information of Captain Lincoln on his arrival.

Lieut. Commander McCleary and I consulted with the harbor officials and leading refugees in estimating the situation for the

purpose of making recommendations to Captain Lincoln and forwarded to Tokyo by motor sailer a report of conditions, together with disposition that would be made of destroyers upon arrival; assuming that Captain Lincoln would act favorably on our recommendations.

Division Thirty-eight arrived about 4 p. m. September 5, and at about 4.30 p. m. one destroyer was dispatched to Tokyo to take off refugees and establish communications between the embassy and Yokohama, one destroyer was sent to Kamakura to relieve about 200 refugees, and one destroyer was sent to Odawara to land a party for a 10-hour mountain climb to rescue people trapped by mountain slides at Miyanoshita.

My report to the embassy reached the embassy at 4 p. m. announcing that a destroyer would be off Tokyo that night, and the following morning at 9 o'clock the destroyer was loaded with 180 refugees of all nationalities en route to Yokohama. The 200 refugees at Kamakura, mostly British, were tremendously pleased to be taken off that night on an American destroyer. To my mind this was speedy relief and it was accomplished so fast that the Japanese had really not "come to" until after it had been completed and there arose a delicate situation. In recommending the dispatch of destroyers as above to Japanese closed ports I knew that the Japanese Navy present in Yokohama would raise a kick, especially as they were quite naturally sensitive to having any foreign men-of-war coming in to do work which they wished to have believed was within their power to handle and in their original premonition that United States men-of-war, Army, and Red Cross organizations were going to walk over them and take charge, they frankly did not appreciate our coming. But I also knew from previous conversations at the navy department that the department had no objection to our destroyer going to Tokyo (port of Shinagawa), and I felt that a temporary misunderstanding would be corrected in Tokyo.

The fact of the matter was that the navy department and the Japanese Navy were not in close harmony in their attitude toward the entrance of our destroyers, but I had previously obtained permission from the navy department for our destroyer to go to Shinagawa. Our destroyer upon arrival there was boarded by a lieutenant from the Japanese flagship and told that their presence there was undesirable. The destroyer brought this message back to Yokohama, and I recommended the destroyer be returned to Shinagawa to continue the rescue work for I knew the understanding between the navy department and our embassy about this. Captain Lincoln acted on this recommendation and simultaneously with dispatching the destroyer to Shinagawa I went aboard the Japanese

flagship and explained to the admiral that I had obtained this permission from the navy department and that I felt there must be a misunderstanding and would he please send a radio to the navy department to confirm the permission. At the same time I got a message to our embassy explaining the tangle and requesting that they straighten it out in Tokyo, which they very readily accomplished.

The result was that the navy department instructed their navy in Yokohama to allow our destroyers to operate between Yokohama and Shinagawa and in this manner the first contact between our force and the Japanese was smoothed away.

The next day Admiral Anderson arrived on the *Huron* and the manner in which he offered the services of the American Navy and the relief supplies with which his ships were loaded put the Japanese completely at ease concerning any embarrassment to be expected from the activities of Americans.

In working out the details of the American relief several situations arose which revealed some weak points of the Japanese in effecting emergency measures and some of these situations throw such powerful light upon the Japanese way of doing things that they will be described in detail.

1. The disaster practically paralyzed the Japanese; for days they were stunned and in Yokohama, the city of most complete destruction, armed forces were not landed for 48 hours after the earthquake, although they could easily have been landed in 12 hours.

2. The nation has been overridden with a fear of socialism and their first reaction was to stop any socialistic disorders before they began. Vigilantes committees were immediately organized and any Japanese strong enough to carry a club or a bamboo pole with a sharp point joined the committees and roamed the cities in groups searching for and killing Koreans on sight. I never have been able to ascertain whether or not the Koreans did any murdering but it is certain a lot of them were murdered.

3. The most noticeable weakness was the lack of communications between the navy and the navy department. Four days after the earthquake I requested the navy department to send a radio to Yokohama, 18 miles away, where their fleet was at anchor and I was informed that if I left the message with them they would get it off the next day. They explained that their communications were entirely demolished and that they were obliged to sent a messenger by foot to Funabashi with messages for transmission. I left them the message but meanwhile sent one off to Yokohama by bicycle. On another instance it took the Japanese flagship 30 hours to send a radio from Yokohama to Tokyo and get an answer. In the mean-

time a United States destroyer had been sent to Shinagawa and had returned to Yokohama with 180 refugees about 12 hours prior to receipt of permission requested in the radio to Tokyo. It was impossible for our destroyers in Yokohama to talk with Kobe 350 miles away. Every time our destroyers tuned up they would immediately be drowned out by the Japanese radio. At first it was felt that this was intentional but later it was learned that the Japanese were simply using up all the air without regard to wave lengths, schedules, or purposes. Anyone who has heard one Japanese ask another Japanese a simple question and has listened to the stream of conversation in answer can understand the necessity for air in Japanese communications.

4. There seemed to be complete lack of harmony between the fleet and the navy department. This was decidedly so at first but soon after Admiral Anderson had put his resources of supplies at the disposal of the Japanese as they saw fit, the complete understanding between Admiral Anderson and the navy department was also felt by the lower officers of the navy, and the Japanese Navy then began to fall in line behind the navy department. It often happened at first that working details were delayed by objections from the Japanese Navy which had not been informed by the department that permission for the particular detail had been given by the department. Often, it was necessary to go equipped with written permission from the navy department to do a particular thing so it could be flashed in the eyes of any official on the spot who attempted to delay progress. In arranging minor details it struck me that there was much lost motion between the navy department and the navy.

5. The Japanese naval officer on the spot was not given the proper authority to expedite the accomplishment of work in hand or else he lacked the initiative to decide and to act of his own accord. This was certainly a factor always present in dealing with questions involving nationalities and closed ports and possibly is more truly placed to the blame of interdepartmental red tape than to naval authority.

6. It takes more than the greatest earthquake and fire disaster in the history of the world to shake the Japanese loose from their iron-bound ways of doing business. Just as much red tape has to be unraveled to get permission to put up a tent at a boat landing as is experienced in getting permission to land a few million dollars worth of food. An experience in unwinding red tape is herewith related for the reason that it shows how muddled the Japanese are apt to become when faced with a problem which is a little out of the ordinary and without precedent.

On one occasion the counselor of our embassy told me our ambassador and General McCoy, United States Army, were due to land at 3 p. m. from the *Huron* and at a certain boat landing but that a Japanese naval officer at the landing said the boat would not be able to land. I appeared at the navy department at 12.45 p. m. to get permission for this boat to land at 3 p. m. The navy department said they had no objections but that I must see the foreign office. I got this permission in writing and went to the foreign office where I saw the Vice Minister of Foreign Affairs, who said he had no objections but I must see the navy department. I showed him my navy department permission, thinking I would clinch the matter. He looked it over and said it would be necessary for me to go to the harbor police. After spending some time locating that official and listening to my interpreter talk to him for 45 minutes I finally asked what was the matter and was told the chief of the imperial police was the man to see. It took that official 35 minutes to tell my interpreter that I must apply to the commanding general of martial-law forces. I went to see him and after 1 hour and 15 minutes' talk my interpreter said he was very sorry for the delay but it was all arranged now and that we would return to the foreign office and get the written permission. Finally, about 5 p. m. I walked out of the foreign office with a permit written in English and Japanese allowing our boats to land at a certain place.

When our next boat landed that evening the naval lieutenant objected, the American showed the permission, and the lieutenant allowed the boat to land but not willing to take any chances he held the American for three hours in hostage while he inquired from his admiral if he was to obey the admiral or the foreign office.

This experience was typical of many encountered in dealing with the Japanese.

The Japanese lost several valuable days in getting their organizations to function on emergency measures, but it must be remembered that this disaster of terrific magnitude happened with the quickness of lightning and though the navy was slow in getting started, still it deserves tremendous credit for the great work it did and for the rapidity of doing it after the start had been made.

The outstanding points in which the Japanese Navy was weak in its ability to meet this unexpected emergency promptly are:

(*a*) They were temporarily thrown off their balance.

(*b*) They were extremely slow in establishing communications.

(*c*) There was lack of close cooperation between the navy department and the navy—too much lost motion.

(*d*) The officer on the spot lacked authority or initiative.

(*e*) Too much red tape between departments of the Government.

JAPAN.

MISCELLANEOUS NAVAL NOTES.

October, 1923.

[From the Japanese press.]

Submarine *No. 34* en route from Yokosuka to Sasebo to take part in division maneuvers to be held at Ura-nagayama-retto on August 30, 1923, suffered an explosion of the cylinders of the port engine on August 26. She was forced to put into Kure Dockyard for repairs, where she arrived August 28, 1923.

Mine sweepers *Nos. 1* and *2*, which were under construction at Harima Dockyard and Mii Dockyard (Okayama ken), respectively, were completed on July 1, 1923 and July 5, 1923, respectively.

The submarine tender *Jinkei*, built at the Mitsubishi Dockyards at Kobe, satisfactorily passed her trials on August 29, 1923.

While the *Hiyei* was at anchor off Tokyo, about September 10, 1923, one of her launches with 130 officers and men aboard collided with a steamer and was instantly sunk. Two officers and thirty-eight men were lost.

The Kawasaki Dock Co. has paid lump sums of money to the families of the victims of engineers and workmen who went down with submarine *70*, as follows:

Number of families who received lump sums	41
Of which 11 were the families of members of the company and 30 were the families of workmen of the company.	
	Yen.
Total amount paid	320,750
Family of a member of the company who was receiving a monthly pay of 250 yen received	25,000
Family of a member of the company who was receiving 1.50 yen per diem received	5,000

For the highest paid workman, a family received 11,020 yen, while the lowest paid workman, who was receiving 0.80 yen per diem, the family received 4,000 yen.

The Kawasaki Dock Co. also presented to the families of naval personnel the sum of 63,900 yen as condolatory offering, which when divided, the highest sum received was 3,500 yen and the lowest 1,000 yen.

The first of all-metal airplanes to be brought to Japan was bought from Germany at a cost of 40,000 yen by the Marine Defense Society and presented to the navy. The plane is now undergoing trials and study by officers at the Oppama air station. The machine is an all-metal passenger monoplane, constructed of duralamin capable of carrying six persons. Motive power is sup-

plied by a B. M. W. motor developing 240 horsepower and driving the plane at a speed of 200 kilos per hour. Its length of wing is about 78 feet and its height about 15 feet.

The airplane ship *Hosho* left Yokosuka on October 9 for Nagoya, where she will take on board thirteen 1921 model scouting and battle planes, leaving Nagoya October 17. The *Hosho* will arrive in Tokyo Bay on October 19.

The planes will fly from Tokyo Bay to Kasumigaura and will be used for the purpose of training.

The boilers of the *Ibuki* (to be scrapped under the naval treaty) will be installed in the *Hayatomo* now being completed at the Kure naval station.

Ships of the first fleet, *Nagato*, *Ise*, *Mutsu*, and others, numbering 37, left on October 5 for Saiki. On October 10 they will come to Kure and stay until October 14, when they will disband and return to their own yard and wait for the reorganization of the fleets.

Ships of the second fleet, *Kongo*, *Hiyei*, *Kirishima*, etc., the second destroyer division, second submarine division, and the airplane carrier *Wakamiya*, in all numbering 24 vessels, will leave Tokyo-wan October 6, for Toba.

The fifth division, *Natori*, *Yura*, *Kinu*, *Nagara*, will leave Shinagawa October 10 and arrive at Sasebo October 16 via Toba.

The fall maneuvers of the fleet have been canceled.

The machine-shop buildings of the main works of the Uraga Dockyard were destroyed by fire. The Kawama branch sustained scarcely any damage. The cruiser *Abukuma* and destroyers *Nos. 6* and *8* are being equipped at the branch works as speedily as possible.

Of these, the destroyer *No. 6* will be handed over to the naval authorities October 24.

Part of the main machine shops will be put into operation this month, and the remainder will be completely rebuilt before the end of the year.

The Navy Paymaster's School, which was burned down, has moved to the Army Accounting School, and will begin instruction October 5.

The Navy Medical School, which was also burned down, will move to the Kitazato Research Laboratory (Tokyo) and instruction will begin soon.

On account of the damage sustained by the Yokosuka naval station, it was at first thought it would be impossible to proceed with the scrapping of the ships allocated to Yokosuka. However, after investigation it was found that the damage was less than first thought and the disposition of ships affected by the navy treaty will go ahead as originally scheduled. Work of scrapping of the *Asahi* and the *Mikasa* was started early in October, and preparations are complete to start work on the scrapping of the *Aki* and *Satsuma*.

The discharge of navy-yard employees, which was to take place on October 20, 1923, will probably be postponed one or two months on account of the recent earthquake and fire. The total number of men affected in the various navy yards will be between 3,000 and 4,000.

This action is taken in view of the fact that it is not considered advisable for the Government to add to the serious social unrest and unemployment resulting from the recent earthquake and fire.

Navy recruits who were to be sent to Yokosuka Naval Barracks will be taken to the Maidzuru Barracks on account of the destruction of the Yokosuka Barracks.

FRANCE.

OPERATIONS OF CALAIS BALLISTIC COMMISSION—EXPERIMENTAL DETERMINATION OF ANGLES OF FALL.

August, 1923.

The Calais Ballistic Commission of the French Artillery was visited recently, but due to the continued bad weather no actual firings were seen at that place. The work of the commission has included in past years systematic firings to determine probable errors of all guns up to and including the 155-mm. S. P. F.

The commission will shortly undertake a comprehensive series of firings with a view to determining a new law of air resistance. The commission uses at present the Boulenge-Bréger chronograph as well as the Joly apparatus, but the president of the commission has designed a photograph apparatus which will be manufactured in a few months and with which he expects to be able to determine the law of air resistance by photographing the projectile in its trajectory a number of times on the same plate. The results obtained with a rudimentary apparatus of this sort made at the commission have given encouraging results.

The apparatus can not be described at present, as its final design is not yet determined, but it will probably be completed in about six months. With this apparatus it is not necessary to use tracer shells which deform the trajectory, but it is possible to photograph the ordinary projectile in flight.

The commission verified by photographing at night the descending branch of trajectories the angles of fall of certain shell. The results obtained are compared with the calculated figures of the range table.

75-MM. GUN.

Angle of elevation.	Calculated angle of fall.	Measured angle of fall.
° ′	° ′	° ′
13 51	21 0	21 21
30 0	42 48	43 50
35 0	48 0	50 46
43 0	56 0	57 41

Muzzel velocity, between 528 and 533 m. s.

105-MM. GUN.

Angle of elevation.	Muzzle velocity (m. s.).	Calculated angle of fall.	Measured angle of fall.
°		° ′	° ′
27	410.8	34 0	34 2
42	407	50 30	50 56
17	528.2	25 0	25 48

It is seen that the calculated angles of fall agree closely with the measured angles when the angles of elevation do not exceed 20°, but is not so good for larger angles.

At all events with large angles of elevation, the angle of fall is large so that the error which results as regards the end of the trajectory is small, and becomes smaller as the angle of elevation increases.

These considerations justify the use of calculated angles of fall in fire adjustment by the high burst ranging method.

FRANCE.

UNDERWATER POWDER STORAGE IN FRANCE.

September, 1923.

The history of underwater powder storage in France dates from the end of the war, when some way of taking care of the enormous stock of smokeless powder on hand had to be devised. It was absolutely out of the question to place this powder in the usual type of pre-war storage magazine, due to the limited number of magazines available and also to the very insufficient number of powder storage cases. The decision was reached, consequently, to store the powder as follows, dividing it into two parts:

1. The so-called "mobilization reserve," made up of the best smokeless powder on hand, and because of its relatively small amount capable of being stored and inspected under approximately the same conditions as maintained before the war.

2. The greater part of the powder left over at the armistice made up the second category. This powder could not be stored in magazines, but it was of the greatest importance to retain it, at least as a reserve of raw material in case of a future war, and consequently it was necessary to devise some means of storage which would reduce chances of accidents to a minimum. It was in this way that the plan of underwater powder storage was devised for this second category of powder.

The investigation so far carried out concerning the effect of storing powder under water had the following objects:

1. To determine the influence of prolonged submersion in waters of different nature on the chemical and ballistic properties of the powders.
2. To determine the ultimate method of using powders stored under water, either as raw material or, if possible, as powder directly utilizable in guns after the proper treatment.

Experiments are now being carried out with the following types of smokeless powders: BN–35, BC, BSP, BM–9, USF, and US–3, the last two being powder of American manufacture. The water in which this powder is stored is of three different kinds, i. e., flowing water in streams, stagnant water in ponds, etc., and carbonated water. These powders are periodically compared with corresponding samples stored in air-tight cases in good magazines. The following results have been obtained up to the present moment, it being interesting to note, first of all, that the results are to all intents and purposes the same, no matter what the nature of the water:

(*a*) *Stability.*—The powders stabilized with diphenylamine have shown a total resistance at 110° Centigrade, very slightly less than that of powders stored in air-tight cases.

Powders stabilized with aniline or with anylic-alcohol, after three years of underwater storage, have shown total resistances of about 20 hours, which is twice less than that of the powders stored in air-tight cases.

The American smokeless powder behaves in the same way as the French powders.

The percentage of nitrogen does not seem to have varied. The percentage of solubles in either at 50° seems to have increased slightly.

(*b*) *Vivacity.*—Powders stored under water which, before submersion, had a *low* coefficient of emission, have approximately the same vivacity as powder stored in air-tight cases. On the other hand, powders stored under water which had a rather *high* coefficient of emission have shown a considerable increase in vivacity in comparison with the smokeless powders of the same lots which were

stored in air-tight cases. Their coefficient of emission decreased at the same time as their percentage of dissolvent. The majority of samples stored under water in their tests do not satisfy the conditions of reception, but it has been determined by calculation that especially in the case of powders used in guns, these powders seem to be still utilizable by a proper modification of the regulation weights of powder charges.

In short, the powders experimented with, now under water for nearly three years, could very likely be used after simply drying them, and, at the present moment, it can be stated that their reworking would not be necessary. Moreover, the stability of the diphenylamine powders has not been noticably changed; the stability of aniline and anylic-alcohol powders, on the contrary, decreased considerably, but before any definite decision can be reached regarding these latter powders, it will be necessary to wait for the results of a longer submersion test.

As a general conclusion it can be stated that submersion of smokeless powder under water will make it possible to store such powder for a rather considerable length of time, such powders maintaining an acceptable chemical stability and utilizable ballistic properties. It is certain, moreover, that the temperature of the water will have a decided influence on the length of time powder can be stored under water, and it is evident that the utilization of water from glaciers would be especially desirable.

The situation at Toulouse as regards underwater storage is as follows:

At the powder plant at Toulouse there are at present about 30,000 tons of smokeless powder stored under water. Three pits or excavations are used, each containing about 10,000 tons. These excavations are each within a few hundred yards of a running stream from which the water is piped to fill them. Before the excavations are filled with water, the powder is transported into the excavations in the wooden powder cases in which one or two holes have been bored so as to allow the free circulation of water in each case, and each lot of powder is kept together. The cases are piled on each other and the piles arranged in blocks with sufficient space between each block to allow circulation in a rowboat when the excavation is filled with water. The water covers the powder in such a way that the surface is about a yard above the top of the highest powder case. In each pit there is a pipe and electric motor-driven pump so that the water can be drained out in two or three days.

In connection with the question of underwater powder storage, the following information was obtained in a visit to Toulon where the wreck of the *Liberte*, which has been submerged in Toulon Har-

bor for over 10 years, has recently been raised and from whose magazines samples of smokeless powder were taken for firing tests. It should be especially noted that the water of this harbor is at an extremely high temperature for the greater part of the year. The results obtained with the BM–15 powder, lot 2–09PB, were:

Muzzle velocity=822.8 m. s.
Maximum pressure=2,505 kgs. per sq. cm.

When this powder was accepted it had given the following results:

Muzzle velocity=827 m. s.
Maximum pressure=2,538 kgs. per sq. cm.

Another lot experimented with was of the same index but a different lot. This gave:

Muzzle velocity=819.8 m. s.
Maximum pressure=2,474 kgs. per sq. cm.

When received the powder had given:

Muzzle velocity=844 m. s.
Maximum pressure=2,641 kgs. per sq. cm.

Both of these powders were found in storage cases which were filled with sea water. The powder was washed in salt water on being recovered and then dried, but the percentage of moisture was extremely high, it being 2.74 and 2.65. Of course, the decrease of velocity and pressure can be attributed to the excessive moisture content of these powders. There is, however, no reason to believe that these powders were denitrated as a result of their underwater storage inasmuch as they both showed absolutely normal force.

Other powders were experimented with and the conclusions were as follows:

The force of powder was greatly decreased and in proportion with the percentage of moisture content. It should be noted, however, that for the firing test the moisture content was left rather high.

Stability.—The test showed that the powder in the wet cases was more stable than the powder which had stayed in moisture-proof cases under water.

Ballistic properties.—There was a great decrease in muzzle velocity and pressures. There was some evidence of the commencing of denitration of powder. It is very probable that the powder of the *Liberte*, which stayed for more than 10 years in direct contact with sea water, suffered a considerable loss of dissolvent, the

effect of which is to increase both the force and the vivacity. Since the inverse phenomena was noted, it is considered probable at Toulon that the powder was denitrated slightly. The powder experts at that place, however, state that the fact should always be borne in mind that the temperature of the water, which is of vital importance in underwater storage, was in this particular case very high.

ITALY.

NEW ROYAL ACADEMY OF AERONAUTICS.

October, 1923.

The new Royal Flying Corps of the Italian Government is instituting, in connection with that arm, a brand new Royal Academy of Aeronautics. For the present it will be housed and conducted in the existing Royal Naval Academy at Livorno. This is not considered an ideal place, as there is no large available space for landing land planes; however; for sea planes it is acceptable, and they will have as a great asset the long-established morale, culture, and traditions of the Naval Academy, with its excellent going routines, discipline, and administration. The handicap of no adjacent flying field will be partly met by the aeroplane aviation course at Pisa and the dirigible station at Pontedera.

Capt. Giulio Valli is to be the first superintendent of the new Royal Academy of Aeronauties, and has been entrusted with its organization by the Commissariato d'Aeronautica.

"The chief end of the Commissariato, in founding this academy, is to unite in one independent source all airmen belonging to both land and sea forces and to the end that they may have a knowledge of warfare in both branches. It will provide a new career to the youth of Italy, full of risk, but also of great economic and social value."

The courses of study in the new academy will be laid out along the lines of the specialty—theory, technical training, and practical work. All will be trained to be "officers and gentlemen" as are the naval cadets.

The study of theoretical subjects will be based on the professional knowledge necessary for a thorough understanding of all that pertains to aeroplanes and the art of handling them; to materials employed and arms carried. Languages, geography, and photography are a part of the course. The winter months will be employed in study and summer months in practical work. The first year's course will be more general than technical, the second year observation work, and the third year piloting. At end of the third year it is proposed to

give the student his "certificate for air navigation," which will include former "pilot's certificate." There will be courses for teaching the higher command of units; air flotillas.

Any graduate of a "Liceo" or "Istituto Tecnico" can take the competitive examinations for admission into the Royal Academy of Aeronautics. Cost of first year to the cadet is 2,000 lire for outfit and equipment; second year, 800 lire and small personal expenses; the third year the cadet will be paid by the State as an "Aspirante."

The cadet leaves the academy with the rank of lieutenant (j. g.) not over 22 years old, and will be drawing pay as follows: Annual pay, 6,000 lire; professional extra pay, 4,000 lire; military extra pay, 2,280 lire; and extra flying pay, 10,800 lire—a total of 23,080 lire. In addition to this pay if serving in a flotilla his subsistence is furnished him free of cost.

There will be a special uniform, similar to present one of the Aeronautical Corps, after the English pattern.

The competitive examinations for the first class to enter the new academy will take place in October, 1923, and all prefects are to have the notice posted throughout all towns and municipalities of their province. To be eligible a certificate must be presented from a "Liceo," "Istituto Tecnico," or "Istituto Nautico"; also those having a certificate from a military college may ask to take the examinations, but they must pass an extra examination in Italian and oral mathematics. Requests are to be sent to the Commissariato d'Aeronautica and will be considered even if necessary documents are to be sent in later on. A medical examination is necessary before being permitted to take the examinations.

ITALY.

RECENT INSPECTION OF CERTAIN UNITS OF ITALIAN FLEET.

October, 1923.

I stopped off one hour in Corfu, arriving on the coasting steamer just before dark, September 25, 1923. The following Italian naval forces were anchored off the city, as the naval forces of occupation:

4 dreadnoughts (*Dante Alighieri* absent).
6 destroyers (*Cantore* type).
6 torpedo boats (old type).
San Giorgio, cruiser.
Auxiliary craft (small tankers, water boat, tugs, etc.).
4 transports.

There was nothing smart about this force, no attempt at any formation, and whole aspect was one of "go as you please." Sig-

naling was watched and appeared anything but smart, very slow, both semaphore and blinker; saw no flag hoist whatever. Regulation of harbor entry and traffic seemed lacking any system or snap, absolutely no precautions against a surprise from Greeks or from Greek sympathizers; seemed odd, as Greece has a navy, and there are always incidents like the blowing up of *Maine* to be considered, etc.

On the water front were parked about a dozen motor trucks, some artillery and other impedimenta of a landing force; this was properly guarded. In fact, as far as could be seen, the army part was well organized and well equipped. Officers and men of the army appeared to better advantage than sailors and naval officers seen ashore.

Town was most orderly, well policed evidently, as I saw several small patrol parties making rounds, in fact was rather impressed by orderliness and lack of swagger usually seen in Italians under somewhat similar circumstances in Italy proper, such as the Fascisti occupation of Rome November, 1922, and patrols seen about Italy, summer 1921, during great industrial crisis. There was nothing in the attitude of forces of occupation (I sat one hour at a table in the public square, the great promenade, and visited shops looking on this square to observe attitude of purchasers) to incense or "rub it in" on the inhabitants; the Italian purchasers in shops were polite, considerate, and paid for their purchases without comment.

It was evident from casual inspection that Corfu was an undefended city; only three old forts, dating from the time of Venetian Republic, and patent to any military eye. A hotel runner who accompanied me ashore, and seemed an average citizen of more than average intelligence, was asked about bombardment; in substance the reply was: "Italian fleet was seen standing in harbor, and all thought it was a 'visit'; great crowds all along the water front to see the 'pageant'; when they began firing it was thought they were firing the usual and customary 'salutes.' When crowd awoke to fact that shells were being used, there was a great panic."

This man told me that armed forces on shore at Corfu at time of occupation were about 100 soldiers in one of the forts under a major and about 100 police; also said Italians had about 14,000 soldiers of all arms on the island.

The transports were standing by for the evacuation scheduled for the 27th, moored stern to sea wall.

No evidence in sight of any resentment on part of Greeks, either looks, manner, or deportment. In fact my candid opinion from the knowledge I have of Greeks, and what I saw of them at other Greek ports, is that they quite welcomed this large influx of money spenders, and large influx of Italian money.

As a repercussion at a later date, when I visited an important Italian naval base, two of the senior admirals, after the usual courtesies had been exchanged, began a lengthy and detailed justification of the bombardment; this without my having broached the subject in any manner or form. It leads to the assumption of "qui s'excuse, s'accuse."

Shortly after I lunched with the captain of an Italian dreadnaught and was shown over the ship, being permitted to see everything except the new Ghiradelli installation. This was referred to and refused by a young Italian naval officer representing the Ghiradelli interests; I knew this young officer during the tests of the set bought by the United States last year. I made no comment further than to remark good naturedly that it seemed a strange business policy to refuse a possible "buyer" the chance to see the goods of an eager "seller," particularly in view of fact that the United States was now in actual possession of an identical apparatus and all the plans pertaining thereto; the young officer was also good naturedly adamant and the captain much embarrassed that he could not show me something on his own ship—odd, but very Italian, that he put the decision on the young officer.

The ship was very dirty, but the captain assured be that she was much the cleanest of all the dreadnoughts, and that the minister, Admiral Thaon de Revel, on a recent visit had "warned" him to pay no attention to "smartness" or especial cleanliness but to concentrate on "efficiency" in all its phases aboard ship and waste no man's time on cleanliness per se. This he informed was also Admiral Solari's policy, who had practically reprimanded the captain of the *San Giorgio* lying near, for the smart appearance of his ship, saying it was wasting the men's time and that she could not be efficient looking so clean and smart. The *San Giorgio* is the only ship in the Italian Navy that I have seen that measures up in any way to American or British standards. She looked exceedingly well and shone like a jewel by contrast.

I asked to see and was shown galleys, heads, messing arrangements, living quarters, sculleries, and all the usual living adjuncts; they were all unspeakably dirty as measured by United States Navy standards, and must be a menace to health. The captain apologized profusely.

A youth was signaling on the bridge with one flag, a kind of semaphore. I asked if they used the double-flag system of British and United States Navy. Reply was, "No, it was too complicated for the men," adding "you know we have to keep everything very simple because our sailors are so stupid and drawn from a class of low order of intelligence." The young officer who told me this was quite honest and most ingenuous.

A careful survey was made of the personnel of the ship; outstanding feature was the extreme youth of most of the men(?), mere boys of 16 and 17 years apparently, and their faces bore out what the young officers had said— "low order of mentality." They were unspeakably dirty, both clothing and bodies.

They use a mess table similar to ours and messing arrangements about the same. A mess man and food brought to mess in retainers from main galley. The food is of the simplest variety, and the galley equipment in keeping; galley, coal burning and most old-fashioned ranges, ovens for top frying and roasting; kettles are coal heated, not steam, and fit into ranges, all indescribably dirty.

Food seems good and well cooked from the standpoint of Italian cuisine, but most simple. Breakfast: Coffee and bread; no milk or butter. Dinner: Pasta (macaroni in some form), followed by meat and a vegetable, coffee and wine, fruit; if not pasta, a heavy minestrone (our vegetable soup, with an addition of meat to it). Supper: Coffee and bread and wine and fruit.

While simple it is a question if we do not go to the other extreme, as far as a proper diet is concerned. The Italians as a race have the appearance of being correctly fed, are strong, apparently well (or could not survive the dirt), and seem well nourished. There is remarkably little obesity in Italy.

Berthing arrangements similar to ours and about same stowage of hammocks, except each turret has circular stowage about barbette on main deck; this would never do in a seaway.

What was thought an excellent feature was noticed in bags. A man's ship bag is his landing haversack; the lower part of his shore-going heavy equipment, which is in two parts, he has stowage for both together in wire lockers.

The heads were divided into small compartments by partial bulkheads, and seats were of glazed tile, permanent. These were cleaner than expected—more unkempt than actually dirty.

ARGENTINA.

PRESENT NAVAL POLICY.

September, 1923.

The Senate met on September 18 and the project for the modernization of the navy came up before it for consideration.

The Minister of Finance was present and he voiced the objection of the executive power to the modification introduced into the project by the Chamber of Deputies whereby the Government was required

(not merely authorized) to withdraw gold from the "Caja de Conversion" for the financing of the scheme.

After some discussion the minister's point of view was upheld by the Senate so that the project had to be returned to the deputies for further consideration.

On the same day the deputies dealt with the navy modernization project sent back by the Senate.

The Minister of Finance explained why the executive power objected to the gold ($9,500,000) being withdrawn from the Caja de Conversion. The treasury of the Caja de Conversion ought not to be touched, for if the Caja is opened for the extraction of the 470 millions it holds to-day and which constitute the guarantee of the currency, then the relative tranquility and felicity in which Argentina lives in the midst of universal catastrophe would be shaken.

On September 19 the deputies met again and the measure for the modernization of the navy and the bill was passed without the modification regarding extraction of money from the Caja de Conversion.

On September 20 a short article was published in La Prensa to the effect that Congress having approved the law regarding the modernization of the navy, the law would be promulgated promptly by the executive.

The work to be executed on the *Moreno* and *Rivadavia* must be carried out in the United States, and it is expected that these warships will be sent separately or together to the United States in February, 1924. It is calculated that they can be ready by the end of the same year.

The work on the desetroyers (four) of the *Catamoroa* type which are to be modernized in this country will be caried out once the material necessary is acquired in the United States.

The law was promulgated by the executive power on September 20, 1923.

Law No. 11,222 which authorizes the modernization of the battleships *Rivadavia* and *Moreno* and the four destroyers of the *Catamoroa* class, passed on September 20, 1923, and was signed by the President.

This law is translated as follows:

ART. 1. The E. P. is authorized to spend up to the sum of 9,500,000 pesos gold for the performance of the necessary repairs on the battleships *Rivadavia* and *Moreno* and the four destroyers of the *Catamoroa* class, in the modernization of their ordnance material, fire control and torpedoes; to make the necessary changes in their turbines; to adapt both types of ships for the use of fuel oil only; to acquire for the above-mentioned ships 75 torpedoes, 14 compressors, 500 depth charges and the necessary apparatus for discharging same, and for the acquisition of 500 defence mines and the corresponding equipment for depositing, laying, and sweeping of same.

ART. 2. The funds, whose expenditure is authorized, will be taken from the general income, being able to make use of the credit, if necessary, and will be placed at the disposal of the Ministry of Marine in eight quarterly quotas, at the time requested by this department.

ART. 3. The expenses arising from the fulfillment of this law will be charged to the same.

ARGENTINA.

REMARKS OF MINISTER OF MARINE REGARDING RECONDITIONING OF MEN-OF-WAR IN UNITED STATES YARDS.

October, 1923.

The following is a translation of certain extracts from the Minister of Marine's hearing before the House of Deputies on September 17, 1923:

I shall make a brief but convenient explanation, to regulate and establish the manner in which this question came about.

As you know, these ships were constructed in the United States, with the tacit cooperation of the American Government, to such lengths that a copy of the plans went to the Navy Department; which means to say that the construction was followed by the American Navy. They have in their construction and in their internal arrangement, especially with reference to gunnery and machinery, elements that belong exclusively to the American Navy.

After the war when it was found necessary to improve the fire control, as it is now possible to hide the target from the eye of the gunner and the distances are so great that they go beyond what we can call the horizon of visibility, it was necessary to think of firing at a high altitude, with other arrangements, with other elements, with other mechanisms.

Taking precisely this into consideration, a request was made to the American Government under date of November 29, 1918, in a telegram addressed by the Minister of Foreign Affairs, Doctor Pueyrredon, to our embassy in Washington, which said: "Negotiate with that Government with considerable interest the necessary authorization for effecting modifications in the fire control of our latest battleships, comprising principally the installations of the vertical and lateral fire directors, taking as model the standard type of the American Navy."

The chargé d'affaires, in charge of the embassy at that time, Sr. Quintana, answered from Washington the 17th of January, 1919, one month later, with a telegram which read as follows:

"With reference to telegram No. —, this Government informs me that it will have the greatest pleasure to have the desired modifications to the latest battleships made in its arsenals, and at the same time accepts the cooperation and the sending of Argentine officers."

Well, Mr. President, it was, therefore, planned that the modernization of our ships was to be made with the cooperation of the merchant marine. The chief of the naval commission, Admiral Irizar, began the first arrangements with the navy department, where a detailed study was made of everything relative to the modernization of our ships, following the American system. The American Navy, which is to-day the first navy of the world, is the one that works the most because it is the one that is pecuniarily able to indulge in the luxury of spending large sums of money to keep up to date.

We, the Argentine officers, Mr. President, have many reasons for being grateful to it; it has been the only navy which has at different times facilitated the entrance of large numbers of our naval officers to all the services and even to-day there exists a spiritual brotherhood between our officers and the officers of that Navy.

This study, therefore, having been made with the guarantee, shall we say, with the collaboration of the navy department, serious prices, severely controlled, this has served as a basis for our Government to present the proposals.

Jointly the same thing was done with reference to the engines; those employed on the ships were of the American type. The Curtiss turbine was the best type of turbine in its time but its great consumption requires an alteration placing on it reduction gears.

For this study, we reasonably went to the constructing house, which is to be presumed would be in the best condition to judge. If I have an expensive watch that needs adjusting I will not take it to the first jeweler I meet; I would take it to the maker or to the reliable house that sold it to me which is the one that will be best able to fix it. The same thing happens in regard to the engines of the ships; one goes to the house that built them. This is not a case of calling for public tenders. If it were to build new ships, then, yes, tenders should be called, as was done for these ships, but when it is just simply to repair them the best thing is to go to the house that has the models, that has the plans, that has all the elements to do the work in the most economical conditions and in the best and most rapid manner.

Besides this it was considered converting the ships into oil burners. It has been said over and over again that we have petroleum in the country, and for this reason from every point of view it is better to burn petroleum instead of coal in our ships. Even England, the coal country, is to-day changing her ships so that they can burn petroleum. Then, improving this circumstance, estimates were asked for the necessary work to change our ships into oil burners exclusively.

Here in this folder are the studies made by the general staff, our naval engineers, and a large body of officers who have signed these documents. Everyone works on the study of the proposals and the prices. These prices are not kept in a drawer of the Ministry of Marine. Upon receipt of a proposal it goes directly where it should, the respective office. The same thing was done with the proposal of the Vickers house that is done with any other: Immediately upon receipt and having made a complete résumé of the different proposals the executive power told Parliament, told the country, what was needed for the repair of the ships.

Under date of June 6 the Vickers house presented a note stating that it could perform the work and that its proposal would be taken into consideration. There was no inconvenience for this. It immediately became secret—here is the receipt stamp of the division—and was submitted to study. Later I will pass around the sheet with the detailed estimates.

The prices given by his English house under date of June 6 for making the repairs in England, were compared with the prices given by the American houses. In the United States, in regards to director fire, the American houses asked 539,690 pesos gold while for the same installations the Vickers house asked 594,720. I have reduced the sums to pesos gold, and they refer to each ship. For changing the turbines and engines the American house asked 483,600 pesos gold and the Vickers house 542,102 pesos gold. Total, to have the repairs made in the United States, for each ship, 2,172,290 pesos gold, and in England 4,978,510, or that is, the English price is 633,930 pesos gold more than the American.

Under date of August 28 the Ministry of Marine received another proposal from the Vickers house to make the repairs in the country.

In the session of August 23 Mr. Deputy Ceballos stated that he had knowledge of a proposal to make the repairs in the country.

The Vickers house actually did request authorization to bring some technical experts to the country with the object of visiting our ships and seeing whether it would be possible also to enter into the arranging of same. I informed them that studies already existed, that the commission had studied this question very completely, but that on the absolute responsibility of the house and in order to demonstrate the good will of the Ministry there was no inconvenience in their making studies and proposals and that if later they resulted more advantageous, they could be taken into consideration and even be granted.

This is the reason this house made the proposal of the 6th of June, which Mr. Deputy has read, and I have just given you the resulting prices, which are higher than the American, and therefore this is sufficient, if there were not many other important reasons, why the work should be done in American shipyards.

Besides there exists, as I have said, the special circumstance that the ships having been constructed in the United States, it is natural that the work should be done there, and in case it should not be done there, then it should be done here, in the country. This takes absolutely nothing away from the fact that the technical experts of this house have been on board the ships. It is a proof of the good will toward the house and there is absolutely no reason for not feeling thus toward it.

With regard to the execution of the repairs in the country, the house under date of August 26 presented a proposal stating that it would do the work in the country, bringing the materials, but leaving the cost of the repairs completely to whatever sum it should reach. That is to say, they fixed a price for the materials which they should provide, for the fire-control engines and petroleum changing materials, but said: "The work will be done in the country, using the installations and facilities which the Argentine Government has, we bringing, they said, some special laborers, and at the same time we would direct the work, charging 10 per cent of whatever price it should come to."

Thus, we should not know how much it would cost. In this manner the work could come out very expensive, because here we are not in a condition to have the necessary equipment to take charge of works of such magnitude. It would be necessary to install a large shop with machinery that would only be used for other modernizations of these ships.

If instead of having two dreadnoughts we had a half dozen and as many more battle cruisers it would be understandable, and I should be the first to request the establishment of these shops to make the repairs here in the country, as we have nothing like this, as these dreadnoughts—and I trust that for many years we shall not have to acquire others, save for some exceptional reason—once modernized shall remain in a serviceable condition. I do not think it convenient to install large shops and acquire costly machinery on which would be spent perhaps 2,000,000 pesos gold to prepare the shops of Puerto Belgrano to make these repairs. Not only is it a question of arranging the turbines but it is necessary to remove the ordnance, dismount it, raise the turrets which weigh 700 tons with pieces of 120 and 130 tons; we have not even a rampart on which to place the turrets; it would be necessary to reinforce the electric plant in order to move this immense machinery; we should have to deepen the wall in front of the dock so that the ships could be docked in a convenient place. Finally, it is necessary to do a lot of work that should

not be performed at this time, as the matter is just a question of simple repairs.

I do not oppose having naval work done in the country. I wish that a reliable house—Vickers house—would come and install a shipyard here, to build small ships, destroyers, scouts, tankers, build the school ship, as happens with the Brazilians who have on the Viana Island or other shipyards where they repair and construct ships, and make their school ship; here also two or three thousand laborers of the country could be employed on this work, with advantage to this industry for which laborers are scarce and expensive. There are cases, Mr. President, precisely in Puerto Militar, when it was necessary to change the blades of three of the 117 stages of a turbine and it took 19 months to do this work. Mr. President can therefore see how long it would take to accomplish a work of this size. For this reason, this class of work can not at the present time be done in the country.

The proposal of the Vickers house of August 28 to do the work in the country, is:

Materials delivered in Puerto Belgrano: Director fire, 549,360 gold; machinery 932,400 pesos gold; transformation to burn petroleum, 393,120 pesos gold. Total, 1,874,880 pesos gold, per ship; for the two ships, 3,749,760. As I have said, the work would be executed with the means and elements furnished by the Argentine Government adding 10 per cent to this value.

Well, Mr. President, if we should attempt to take as a basis for calculation this difference of 1,228,750 pesos gold between the amount asked by the Vickers house to do the work in the English shipyards and what the same house would charge to deliver the material in Puerto Belgrano, we should have to take into consideration the different working conditions and salary in our country, and add as a minimum 30 per cent to the above figures which would bring it to 1,597,375 pesos gold, adding to this the 10 per cent asked by the house we should have 1,757,126 pesos gold, per ship.

The total, therefore, of the price of the material, placed in Puerto Belgrano, augmented by the sums before deduced as cost for the execution of the work, would reach the sum of 5,506,872 pesos gold, if the work should be done in the country.

The chamber can thus see that this price is extremely high.

I am giving, Mr. President, data from my office, obtained from the proposals made by the Vickers house, from their last proposal of August 28, where they state that the work can be done in the country; and according to these sheets and according to the studies, upon which the ministry should base itself, I say that the price of the materials and of the work done in the country would be much more expensive than having it done abroad and that we are not in a condition to execute the work nor have we the elements for doing it.

For this reason I am definitely opposed to having the work done in the country.

In regards to its performance in the United States, it offers the advantage and the convenience of the price and besides the guarantee, as I have said, that the work would be done with the friendly collaboration, shall we say, of the American authorities, who have given us, now as always, all kinds of help.

On the other hand, in case of sending the work outside the country and not to the United States, it would be necessary to ask the consent of the American Government to dismount the fire stations, as many of the patents we have belong to it.

For these reasons, I request you to consider this question and authorize the executive power to send and have the work done in the United States and in the houses that built the ships, which are the best qualified to do it. It is not a question, as I have said, of calling tenders for this work.

Besides the law of accountability authorizes the executive power in similar cases to dispense with the calling of tenders.

This is precisely what I have been explaining; here the necessary elements do not exist, and as there are no operators the house would have to bring the 300, 400 or more laborers necessary, who we should have to pay the salaries they might choose to ask. Notice the last part; I have said that the work would be done in the country utilizing the Argentine facilities and installations, to which we should have to add the 10 per cent asked by the house.

In any case here is the proposition, I place it at the disposal of the chamber; it is the proposal presented by the Percy Grant house, representative of the Vickers house. It says: "First part, provision of turbines, etc., 185,000 pounds, which converted by exchange give 972,400 pesos gold, as I have already said; for the provision of everything necessary for the external installations 78,000 pounds, which are 393,120 pesos gold; for changing the fire control system, etc., 109,000 pounds, which are 549,560 pesos gold."

SPAIN.

REACTION IN ANDALUSIA TO EVENTS IN MADRID AND MOROCCO.

September, 1923.

The official announcements of August victories over the Moors were received by the people with dejected indifference; the list of casualties interests them more, and while the former are discounted by the Andalusians, the latter is always assumed to be in excess of the figures officially published. Nobody wants the war and everything related to the campaign in Morocco is distasteful and horrid. Ninety-eight per cent of these people would be delighted to unconditionally get out of Morocco and forget Morocco. They have repudiated the war policy on every occasion when opportunity presented and now they see themselves slowly drowning in a prodigious sea of war expenses. Realizing the futility of peaceful occupation they are convinced that the question can only be settled by blood and iron and they are completely averse to furnishing either the blood or the iron.

But the attitude of helpless resignation in Andalusia is remarkable. They continue to witness convoys of wounded and the endless reenforcements for Melilla with no visible symptom of dissent. It all makes an observer wonder how long human patience can stand, and whether the centuries of a certain sort of rule have evolved in Andalusia a type of people that is incapable of protest. The loyalty

to the throne of these natives of southern Spain is greater than in any other part of the country and their strong religious spirit stimulates this loyalty as they consider the church and throne one indissoluble entity. In 1922 when a troop ship left for Africa there was a great demonstration and much cheering and fiestas, while now in August, 1923, the replacements embark at night and leave silently and with no advertisement.

Little interest is shown in the actual military operations. The local press makes no comparisons between the French successes and Spanish defeats in a similar warfare in Morocco. There is small criticism of the lack of a definite plan and the will to carry it through. Intelligent opinion realizes that the one objective is the cleaning up once and for all of the Beni-Urriagel tribe and that its cost would be no more than the present exposed hesitation, but there is no complaint that this is not done. There is no defense of tactical blunders or staff mistakes. They are a matter of course, just as inefficiency in high places, military supplies costing the nation twice market prices, or the right-about face of a ministry on the most important question before the country. When any opinion is expressed it is that the foreign legion and the native troops be allowed to fight all the war instead of merely being shock troops, and that the home conscripts be repatriated. The paramount problem of the young men is how to avoid military service.

No one here attempts to separate the cabinet's rise and fall with the great question of Morocco. Since 1912 every ministry has asserted its intention to pursue a pacific policy in the Spanish zone of Morocco and, invariably, every one of them has persisted in war. The farce of the present cabinet crisis is a not a phenomenon, it is the logical outcome of indecision and inefficiency. To the people in Andalusia the personnel of any ministry is not of interest; the ministers are usually unknown and are discounted as being like all their predecessors, regardless of their political affiliations. Changes of ministries is a domestic matter affecting only the inner circle of professional statesmen. The public demands no accountability and expects no rectitude. The hearts of the people of Andalusia are not in this war and there is only passive indignation when another defeat occurs or when a cabinet completely turns about. With static abnegation they have long since grown to expect such things and their real interest is confined to the personal problem of whether Juan or Pepe, whose term of service has long expired, must remain longer in Africa, or whether he will ever return.

SPAIN.

THE CHANGE OF GOVERNMENT AS AFFECTING THE COMMERCIAL LIFE OF MADRID.

October, 1923.

In the first few days of the change of government royal decrees and changes of policy came so fast that it was exceedingly difficult to estimate what effect, if any, the sudden change could have on commercial life generally in Madrid, and even now it is impossible to get a bird's-eye view of what has been done, because events have happened so recently, and reforms occur from day to day where heretofore no native would have regarded it possible to make any sort of alteration except for the worse. The following is a short summary of the changes from September 13, 1923:

1. On September 13 an appeal to the country and to the army was published in which it was stated that Spain was approaching ruin as a result of the corrupt practices of certain politicians then in power, and specifically naming Don Santiago Alba, then Minister of State. The people and the army were asked by the signer of this appeal to throw out the politicians. It was signed by Primo de Rivera, captain general of the fourth region, and martial law was proclaimed.

2. On the resignation of the then government of Garcia Prieto, Primo de Rivera was named the chief of the military directorate, and one of his first acts was to announce that Don Luis Silvela ceased his work as high commissioner in Morocco and was succeeded by General Don Luis Aizpuru.

3. The acting chiefs of the Ministries of Marine, State, and War, all men of career in their respective ministries, were given charge of their departments.

4. On September 17 Parliament was dissolved and the constitutional guarantees were suspended.

5. On September 18 a national military directorate was created, and various politicians in the Government were, one by one, as far as possible, relieved of their responsibilities. An order was issued almost as soon as Primo de Rivera came into power requiring all civil servants to be at their posts of duty at 9 o'clock each morning, so as to sign an attendance slip between 9 and 9.15.

This resulted in the early morning street cars being overcrowded with civil servants who had never before reported at their offices where they were supposed to be employed, except on pay day, and it also resulted in the extraordinary crowding of almost all Government departments.

For a long time it had been common gossip that there were many persons on the Government pay rolls who, by an arrangement with the chief of the section, never reported for work, but this military order, obeyed under the compulsion of martial law, was such graphic proof of the above abuses, that military officials were immediately detailed to go through Government offices and to discharge on the spot all persons who did not have chairs on which to sit down, and on the second tour to discharge those who did not have desks at which to work.

By this rough-and-ready system Government staffs have been largely reduced, and further military orders to the effect that absence from the office without proper excuse, in the first instance shall be punished with the loss of salary for a month, and in the second instance with loss of salary for six months, and in the third instance by immediate discharge, has imbued all the civil servants who are left with the spirit of regular attendance and getting effective results in their work. All promotions and appointments are postponed until all staffs are reduced by 25 per cent.

Reforms similar to the above are being developed every day. For example a commission was appointed on September 17 to study the high cost of food throughout Spain. On the same day were suspended the plans for road making, which were under the suspicion of having been largely influenced for political reasons and made to favor certain provinces at the expense of their less politically powerful neighbors. On the same day an order was issued to speed up the decision in Government departments on the questions which had been raised by private persons.

On September 19 various means were legalized for the suppression and punishment of any move toward the separation of Catalonia from the rest of Spain.

About the same time was suspended the law of accountability requiring each Government department to follow antiquated rules in making payments from certain particular accounts which in the past has resulted in money being spent unnecessarily rather than to turn it back to the Government because it could not be spent in that department except for the certain purpose for which it was voted.

On September 21 the military directorate issued an order and announcement that thereafter all crimes, political and violent, should be judged by summary court-martial, and on this same day was announced the cessation of all licenses and detachments of servants of Government officials, as under the former system political powers were accustomed to attach for their personal service various Government servants who continued on the Government pay roll.

Various advertisements for bids for telephones were recalled, and on September 22 the civil juries were abolished in all Spain, and

various privileges of retired army officials were canceled. A request was made for a return of all the facts in connection with the use of official automobiles by Government functionaries. It is said that there were 157 official automobiles in use in Madrid by Government officials.

Turning to particular commercial transactions the Government announced that it had no desire to interfere with the normal and honest commercial life of Spain, and so far its acts have had little or no effect directly on normal and current occupations. The Government has, however, taken a strong position on the question of petty thieving and cheating and profiteering at the expense of the public, and offending shopkeepers have been heavily fined—as high as 4,000 pesetas—for using short weights, for not displaying clear price tags, and for not making a prompt return of the stocks on hand of such daily necessities as sugar.

In the first few days of its power the Government issued a manifesto to workers stating that it expected them to do their patriotic duty by giving full labor for their wages, and issuing a corresponding manifesto to employers to treat the workers in the most favorable light possible, so that the present situation might not be complicated by a struggle between employers and employed.

The Government has also received sympathetically representatives from the working classes, and has regarded with special sympathy the working conditions of the miners in the Government quicksilver properties in Almaden. For the examination of this a special commission has been appointed on which the laborers are properly represented.

That the Government is not unsympathetic with financial circles is indicated by the cordial reception of bankers given by Primo de Rivera when he consulted with them on the extension of the Government notes falling due on October 15. These notes were extended for another six months.

From all of the foregoing the community here seems generally to feel that a more prosperous and efficient era is in store for Spain, and there is little or no fault found with the Government by the business community, except that there is a prevalent fear that the Government will slump back into a state of dignified inaction resembling that of so many of its predecessors.

The commercial community seems to believe that if the Government can go through all strata of Spanish life, making these very practical reforms and earnestly carrying them out to their completion, the Government will stand for some time and that Spain will be much the stronger for its existence, and with a stronger Spain will come a stronger business for the individual. For this reason the business spirit in Madrid seems optimistic, and the only

pessimistic note as to the Government which has been heard, is that this military directorate may not have the practical ability to carry out the reforms. Their acts since coming into power, however, contradict this pessimism. I have heard of a few Spaniards becoming nervous and selling Spanish investments so as to move their capital to South America, England, or the United States. It has not been possible, however, to find that this movement has had any consistent support, and it is more than probable that these individual investments were of a type that would have been made in the ordinary course in any event.

As far as merchandising is concerned this is bound to be a slack time, and the fact that Government purchases are being curtailed rather than extended is another factor which stagnates present business, but the feeling generally of merchants is as optimistic as it has been at any time since the writer has had occasion to talk with them; and since the present Government has been in the saddle for nearly a month, it would seem reasonable to infer that any great nervousness on the part of the people would have been reflected ere this in the attitude of individual merchants who are from day to day supplying their needs.

SWEDEN.

REPORT ON TRIALS AND COMPETITIONS OF THE INTERNATIONAL AIRCRAFT EXPOSITION AT GOTTENBORG, SWEDEN, AUGUST 4, 1923–AUGUST 10, 1923.

I arrived in Gottenborg at 2.30 p. m., August 3, 1923, and reported to the American consul who in turn called up the director of the exposition who informed me that the Swedish consul at Copenhagen had notified them that I was to be an official observer at the trials and competitions at Torslander. I was requested to report at Illug the next morning, August 4, at 9 a. m., in uniform, to accompany the party of the crown prince through the Aeronautical Exposition of Sweden.

I reported at 9 a. m., and was given an official pass that would pass me into any part of the aircraft exposition grounds and to any hangar in Torslander. The morning was spent in going from stand to stand of the aircraft exhibitors and observing demonstrations put on there by these people. The French exhibitors demonstrated various things concerning French machines. The Swedish exhibitors explained in a way the operation of the Swedish planes. Each type of the British plane was thoroughly looked into. A previous report accompanied by prospectuses of British planes has already gone in.

Upon coming to the Junker exhibit, while talking to one of Doctor Junker's men, he told me that he would like me to see the new Junker air-cooled motor and took me to the Junker school plane and showed me a six-cylinder, horizontal air-cooled motor which he said would develop about 60 h. p. This motor has a contrifugal fan attached back of the propeller which forces the air along the upper part of the crankcase, past each cylinder where it is passed along vertical vanes to an exhaust above the top of the cylinders. This motor is still in the experimental stage and has never been put on the market. It is in almost every sense of the word a duplicate of the Franklin automobile engine adapted for airplane propulsion.

Two planes of the Dornier exhibit included a Dornier *Kommet* and a Dornier *Libelle*. The *Libelle* is an all-metal, 2-place, monoplane flying boat equipped with Sieman's 60 motor. Later during the week I was taken for a flight in this type of machine at Torslander.

The Baumer Aircraft Co., directed by Capt. Paul Baumer, the German ace of the World War, had on exhibit one Dietrick-Bogiet machine equipped with a Clerget motor and one Udet sport plane equipped with a Sieman 60 motor.

The Mark Steel Works demonstrated the feasibility of folding the wings and the easy transportation of the Mark Stahlwerk plane by means of a single motorcycle.

The Ernest Heinkel Aircraft Co. of Wermermunda, Germany, demonstrated the H. E. 3, 4-place monoplane that was equipped with a 110 h. p. Sieman's motor. This machine is a two-float seaplane or it may be converted into a land plane at will.

With a crew of six men the floats were removed from this machine and landing wheels put in their place in 63 seconds. It was reconverted into a seaplane in 49 seconds. Both wings were removed, floats removed and folded, landing gear folded in a compact bundle and all placed alongside the machine in 67 seconds. At a call from the pilot the entire machine was assembled ready for flight with the motor running in 1 minute and 8 seconds. The fuselage construction of this machine is of spruce and three-ply veneer. All joints are glued, wired, and covered over with a veneer patch. The wings are covered with a wood veneer. The floats are disconnected by loosennig two tension buckles and spreading the float struts. The wings are held in place by a wedge bolt running through the two spars. This spar bolt operates by means of a handwheel under the pilot's cockpit. Attached hereto is a complete description of the H. E. 3 machine.

Upon leaving the Heinkel exhibit we proceeded to the exhibit of Caspar-Werke. This consisted of one sport, two-float biplane, one

two-passenger monoplane, and one seven-passenger monoplane. The construction of the Caspar machine is very much similar to that of the Heinkel. Caspar at one time was assistant engineer for Mr. Ernest Heinkel in the designing and construction of machines. The Caspar sport machine has no struts between the wings. The interlocking bracing of the wings is a late design of Mr. Rockefeller, one of Caspar's engineers. Upper and lower wings are each made in one section. They may be removed by lifting the clamp with the aid of a pilot and two assistants in 67 seconds. The flotation gear is removed in almost the same way as that of the Heinkel machine. The horizontal stabilizers are lifted vertically by disconnecting a brace, thereby lending space for storage. This machine is also built in a design for storing in a tube and carrying aboard submarines.

All wings, fuselage and tail space is covered with a layer of three-ply veneer. No fabric whatever is used on the surface of these machines.

At 1 p. m. I proceeded to Torslander by automobile to witness the formal opening of the commercial and military aerodrome located there. The weather was such that the crown prince of Sweden was unable to attend and the opening was postponed until the next day.

Torslander is located on an island 21 kilometers southwest of Goteborg, the largest in the vicinity. The field is two kilometers long and 900 meters wide at one end and 1,850 meters wide at the other. It is located on the site of a good harbor for seaplanes and is the only place in the vicinity of Goteborg from which both land and sea planes can operate.

There is located here at present one wooden hangar capable of housing 12 machines of the passenger-carrying type. The Swedish Army and Navy has a number of temporary tent hangars there that will eventually be done away with and wooden ones substituted in their place.

Torslander is equipped with a wind-direction indicator that is closely guarded at present. There was an article in one of the Goteborg papers about it and showing a picture of the indicator and light. This clipping is attached to another report.

A set of Hornig circles is also supplied to Torslander. The weather has been so wet and the ground so soft that the Hornig circles were of very little use for night flying.

At 4.1.36 p. m. Lieut. N. Soderberg, a Swedish officer, arrived in a Berguet *14–B2* machine equipped with a Renault 300 h. p. motor, from Totterdam, thereby winning the first prize of 10,000 krona for the arrival competition that started from Rotterdam. This machine was 6 years old and was purchased from the French Army for 1,000 krona. The second man to arrive was B. Grase, Fokker *C 1–V* machine, at 4.5.31 p. m., equipped with a Napier Line 450

h. p. motor. The third person to arrive was R. Thredmann, Germany, Junker six-seater seaplane, equipped with a B. M. W. 200 h. p. motor, at 4.6.0 p. m. The fourth person to arrive was Colba, England, in a *DH9*, equipped with a Siddley "Puma" 230 h. p. motor, at 4.7.37. The fifth person to arrive was W. Zimmermann in a Junker three-seater, float, seaplane equipped with Siemen's 80 motor, 60 h. p., at 4.10.6 p. m., Germany. The sixth person to arrive was H. Heming, England, in a De Haviland machine equipped with a Rolls-Royce 270 h. p., at 4.17.24 p. m. The seventh person to arrive was E. Bird, England, in a Gloucestershire "Grebe" machine equipped with a Siddley "Jaguar" 340 h. p., at 5.20.4 p. m. At 6.9.31 p. m., E. Kjewlgren of Sweden arrived in a Tumielisa one-seater training plane equipped with a Thulin 80 h. p. rotary motor.

At 5 p. m., Tony Raab, a German aviator, landed in a Stahlwerk-Mark machine *No. D. 281* equipped with a two-cylinder Haacke motor, having made the trip from Hamburg.

The flagship of Air Commodore Lamb, R. A. F., an *F5* flying boat, equipped with two Eagle IX motors, circled the field several times. Commodore Lamb arrived with his squadron Friday afternoon at about 3.30 p. m., from Southampton.

On Sunday, August 5, 1923, at about 1 p. m., the British Air Minister, Sir Samuel Hoare arrived in his air taxi, a *DH34* five-passenger machine equipped with a Napier Lion motor. The controls of this machine are so arranged that the elevators and the ailerons return to normal position at twice the rate they are brought down. Another feature of this machine is that the fuel and lubricating-oil tanks are in the upper wing surface. The cabin of this machine is inclosed in fuselage and is equipped with seats, lounge, a table with a table lamp, and a toilet, also with a loud speaker radio telephone receiving set.

About 2 p. m., there was a competition of patrol flying between the Swedish and Dutch squadrons of land planes and the Swedish squadron of five seaplanes of the Hanza-Brandenberg type equipped with a Mayback 260 h. p. motor.

At 2 p. m., a squadron of five Dutch Army machines, four Fokker *D–IX's* with a Fokker *D7* as a leader, took off in formation and proceeded in the maneuvers as described in a clipping attached hereto. At about 2.30 p. m., a squadron of five Swedish Army, Phoenix type, machines with Hero motors, took off and proceeded with a mock squadron attack. The Dutch outmaneuvered the Swedes and got them in a flying circle and kept them there regardless of the many stunts the Swedes attempted. The Dutch then landed in formation and the Swedish squadron proceeded with bomb-dropping exercise.

A small house, about 15 feet square and about 8 feet high, was placed in the middle of the field. The Swedish squadron flew over this house at an altitude of 300 meters and dropped bombs at it. Each plane dropped six bombs, none of which hit the building. The closest bomb to the building was about 30 feet and the furthest one 80 meters. The Swedish machines were equipped with a hand-bomb release that released the bombs that were suspended over each lower wing section near the fuse light. An improvised bomb sight was used. Each of these planes have places for four bombs of about the size of a pyrene can or a bit larger on each lower wing. The prize awarded as a result of the sham battle was awarded to the Swedish squadron.

At 3 p. m. Mr. Bramson in a De Haviland sky writing machine ascended to the height of 2,300 meters and wrote the word "Illug" in the sky and landed.

At 3.15 p. m. a Swedish Army Phœnix machine took off with a passenger, Herr W. Hinderlich, representing Steffen & Heymann, of Berlin, rose to the height of 300 meters when Mr. Hinderlich jumped out with a Heineche parachute. The parachute opened almost immediately and he descended rather rapidly with the wind, kicking and squirming, trying to get his hands on the control line when he landed rather heavily on a rock. He was upset but not injured. A few minutes later Lieutenant Thornbald, of the Swedish Army, jumped from the rear cockpit of a Hansa-Brandenberg machine from a height of 100 meters and landed upon his feet. This parachute started out much more rapidly than the Heineche parachute but slowed up when it came near the ground.

The remainder of the afternoon was taken up with passenger flying. I was taken as a passenger in a Dornier *Libelle*, the small metal monoplane flying boat, by a Swedish officer, and by Mr. Fokker in his *C4* machine.

At 8 p. m. the city of Goteborg gave a banquet at the Rotunda Restaurant in the exposition grounds.

On Tuesday, August 7, 1923, at 8 a. m., altitude tests were made. At 9 a. m. the planes enrolled in a traffic flying competition from Goteborg to Malmo and Copenhagen began.

All planes were in the air one minute after the white rocket was sent up. At 9.30 a. m. I visited the hangars of the Swedish and British Armies that were located on the opposite side of the field from the spectators. The Swedish Army had two squadrons of five planes each, Tummelish machines, two squadrons of five planes each of Swedish Army-Phœnix single-seater machine, equipped with Hero motors, and one squadron of *S21* two-seater biplanes equipped

with a Maybach 260 h. p. motor, and one squadron of *J23* monoplanes equipped with B. M. W. 185 h. p. motors.

A description of the Blackburn torpedo carrying a machine equipped with the British landing hooks for landing on the deck of a ship is attached hereto in a confidential report.

At 4 p. m., a Junker six-seater, two-float, all-metal seaplane landed on scheduled time from the Malmo and Copenhagen trip.

On Wednesday, August 8, 1923, at 8 a. m., an altitude flight contest recommenced.

At 9 a. m. the traffic planes, *Malmo* and *Copenhagen*, took off. The Caspar machine had engine trouble and was late in taking off.

From 3 to 5 p. m. was devoted to passenger flights. I was taken in a second pilot cockpit of an *HE3* monoplane by Mr. Bucker and asked to take the machine off the water. This I did and made several turns, flew once around the course and landed. The control and operation of this machine is very simple. It answers to control readily. The power is not sufficient to permit a climbing turn or stunting. It is very stable on turns and easy to land.

At 4 p. m. the Junker six-seater, all-metal monoplane arrived from Malmo and Copenhagen. A few minutes after, the other planes arrived and landed with passengers.

At 5 p. m., Mr. Henderlick again demonstrated the Heineche parachute. He took off in a Swedish Army two-seater machine and attained an altitude of 300 meters and jumped out. A very stiff wind was now blowing and blew him among some buildings on the south side of the field but he was not injured.

On Thursday, August 9, 1923, the competition for the John Lithanders prize was held. At 9 a. m., the planes took off for the traffic flying competition to Malmo and Copenhagen. All planes were in the air one minute after the white rocket was sent up.

Various planes took part in the John Linder competition with only one mishap. A Stahlwerk-Mark machine was flying low at a slow speed with the wind as a part of the competition. He arrived at the northwest end of the field and attempted to open his throttle and "zoom" to make a turn. It was raining quite a bit and the wind was blowing at about 17 knots. His motor choked, he landed upon the rocks and his machine was demolished but he himself was uninjured.

The chief pilot of the Armstrong-Siddeley Co., Captain Proctor, took off with a Siddeley Mark II machine equipped with a Jaguar motor, circled the field and made a record zoom at 70°.

Mr. Andres, a Swedish aviator, in an Avro machine equipped with a La Rhone 110 h. p. motor also did various stunts and landed by side slipping almost to the ground.

Mr. MacMillan in a Bristol-Jupiter fighter, equipped with a Bristol 400 h. p. motor, gave a demonstration of slow flying and of steep zooms.

There was a competition of slow and stunt flying. Mr. Fokker in his new *C4* machine equipped with a Napier Lion motor gave a demonstration of stunt flying. After warming the motor for 35 minutes, he took off, circled the field and attained an altitude of about 500 feet, did various loops, Immermann turns, reverse turns, and climbing spirals. He then cut his motor as if to land, came within 20 feet of the ground with his motor off and glided the entire length of the field to within 100 feet of the crowd, when he opened the throttle and zoomed upward. He did this once more and made various climbing and vertical turns with his lower wing below the height of the top of the hangar.

After this the Dutch squadron took off and made a sham attack on Mr. Fokker's plane. He evaded them and all their attempts to get him within the flying circle, either by climbing or by zooming suddenly with his machine. On their failure in the attack he sideslipped almost to the ground and made a landing.

At 4 p. m., and a few minutes thereafter, the planes arrived from the Malmo and Copenhagen trip.

Mr. Hinderlick made another jump with his parachute and the stiff wind blew him across the field again. He opened a pilot chute (a chute about 3½ feet in diameter) but it got caught in the lines and did no good. He struck the ground, swinging violently and was stunned when he made the landing.

At 8 p. m., there was a banquet at the Rotunda, given by the Aero Club of Sweden.

There were no fatal accidens at Torslander from August 4 to August 10. Only two planes were crashed, the first being a Stahlwerk-Mark with a two-cylinder Haack, and the second a Caspar-Wert two-passenger machine. Lieutenant Montgomery, in an *S18* Swedish seaplane was killed in Rotterdam in taking off for the race to Goteborg; H. Fischer in an L. F. G. *V 20*, equipped with a Benz 150 h. p. motor, crashed into the sea and was killed in this race. A few minutes later O. Schultz, in a L. F. G. *V 13*, with a Benz 220 h. p. motor, went down to aid Fischer and was drowned in a heavy sea. A few days later Captain Liljwalch, of the Swedish Army, died from the results of the crash with Montgomery.

UNITED STATES.

ESTIMATE OF THE ECONOMIC SITUATION.

October, 1923.

(Prepared by a committee at the Army War College.)

Mines, Metals, and Chemicals.

Metals and minerals are considered under three classes, A, B, and C.

Class A.—Those of which we produce a sufficient quantity for all purposes.

The principal ones are iron, copper, lead, zinc, sulphur. Our supply is sufficient in all of these products, of which iron is the most important. The principal feature of military importance is the exposed location of the Lake Superior iron ore deposits, which furnish 85 per cent of our production, and the exposure and vulnerability of routes of transportation through the Great Lakes to ports on Lakes Erie and Michigan.

Class B.—Those of which we normally import considerable quantities.

Article.	Unit.	Estimated war requirements.[1]	Per cent of requirements United States can produce.	Time to reach this percentage.	Principal foreign sources.
Antimony	Tons	20,900	100	1 year	China, Bolivia.
Asbestos	do	100,000	10	do	Canada.
Chromite	do	150,000	100	do	Rhodesia, New Caledonia, India.
Graphite (crystalline)	do	15,000	40	6 months	Ceylon, Madagascar.
Manganese, 35 per cent ore.	do	700,000	50	1 year	India, Bra il.
Nickel	do	25,000	5		Canada, New Caledonia.
Platinum	Troy ounces.	60,000	1		Colombia, Russia.
Quicksilver	75 - pound flasks.	36,000	100	6 months	Spain, Italy.
Tin	Tons	65,000	0		Federated Malay States, Dutch East Indies, Bolivia.
Tungsten	do	12,000	25	3 months	China, Burma and Shan, Bolivia.

[1] Annual requirements for military and civil needs based on 6 Army program.

Class C.—Those of which we normally import certain quantities or grades.

Article.	Unit.	Estimated war requirements.	Per cent of requirements United States can produce.	Time to reach this percentage.	Principal foreign sources.
Sheet mica	Tons	1,000	100	6 months	India.
Vanadium	do	700	100	do	Peru.
Chemicals (including certain drugs):					
Sulphuric acid	do	6,000,000	100	1 year	Pyrites from Spain.
Nitrogen	do	300,000	50	do	Chile.
Potash	do	240,000	[1] 25	6 months	Germany, France.
Iodine	do	400	6		Chile.
Nux vomica	do	1,500	0		India, Cochin China.
Opium		140	0		Turkey, Greece, India, China.
Cinchona bark (quinine).	do	2,000	0		Java, South America.

[1] Eventually all.

CONCLUSIONS.

The United States can, in case of necessity, produce all minerals and chemicals required for the prosecution of a major war except nickel, tin, manganese, tungsten, asbestos, graphite, platinum, nitrogen, potash and the four drugs indicated above.

Reserves should be accumulated of those articles that we can not produce in sufficient quantity and of those in which the production takes a considerable time to develop. Where limited reserves of minerals exist, they should be conserved and use made of imports for normal consumption.

In time of peace search should be made for additional resources and research work should be carried out to discover substitutes and possible economies in use. Plans, to be put into effect at the beginning of an emergency, should be made for:

(*a*) Intensive exploitation of resources.

(*b*) Control of consumption.

(*c*) Elimination of nonessential uses.

(*d*) Proper distribution and economy in essential uses.

Flow of raw materials.—The principal flow of raw materials is from west to east and, to a lesser extent, from south to north toward the great manufacturing regions of Ohio, Pennsylvania, New York, New England, and Illinois. The most important feature of this flow is that of iron ore referred to above.

Advantages and disadvantages in case of war in various theaters.—In case of war in an Asiatic theater or at home against an enemy coming from the west or south, the disadvantages of flow of

raw materials meeting the flow of finished product would exist, while in case of a European theater or an enemy coming from the east the flow would be in more normal directions.

Against an enemy coming from the west, our mineral deposits near the Pacific coast would be endangered and an enemy from the south would threaten our Arizona copper and asbestos deposits. The sulphur mines in Texas and Louisiana within gunfire of the Gulf of Mexico would be subject to interruption by any power controlling the Gulf.

With respect to an enemy coming from the north, the outstanding feature of military importance is the exposure of the Superior iron ore deposits and routes. Our aluminum, artificial graphite, abrasives and certain phosphorus supplies would be endangered and the supply of nickel from Ontario and asbestos from Quebec might be cut off. Protection of our mineral sources and protection and control of the Great Lakes are essential. Canadian nickel and asbestos deposits should be secured.

Against an internal enemy protection of the mineral deposits and routes of supply is important.

B. Raw Materials and Textiles (Except Food, Fuel, Minerals, and Chemicals).

Raw materials, within the scope of this study, fall into three classes, as follows:

Class I.—Those which we produce in quantities in excess of our consumption, and of which we have an exportable surplus.

Class II.—Those which we produce in quantities inadequate for our needs, and which must be supplemented by importations in kind.

Class III.—Those which we do not produce at all, and which must be imported to the extent of our consumption or needs.

The average situation for any 12-months period for each of these three classes may be summarized as follows:

CLASS I.

Article.	Production.	Consumption.	Exports.	To—
Cotton.....bales..	13,500,000	6,500,000	7,000,000	Europe, Japan.
Lumber.....M board feet..	35,000,000	29,000,000	6,000,000	Orient, Europe, South America.
Naval stores:				
Rosin.....barrels..	1,500,000	500,000	1,000,000	Europe.
Tar.....gallons..	3,500,000	2,000,000	1,500,000	Do.
Pitch.....do....				
Turpentine.....do....	25,000,000	16,000,000	9,000,000	Do.
Tobacco.....tons..	600,000	350,000	280,000	Do.

CLASS II.

Article.	Production.	Consumption.	Military requirements. [1]	Imports.	From—
Wool.....tons..	150,000	320,000	[1] 212,500	170,000	British colonies, South America.
Hides.....do....	400,000	675,000	[1] 90,000	350,000	All countries.
Flaxseed.....bushels..	10,000,000	27,000,000	[1] 2,500,000	17,000,000	Argentina, Canada.
Hemp.....tons..	5,000	10,000	(?)	5,000	Italy, Canada.
Castor beans.....bushels..	11,000	1,300,000	(?)	1,200,000	Brazil.
Optical glass.....pounds..	300,000	950,000	(?)	650,000	Europe, Canada, South America.
Beeswax.....tons..	450	1,700	(?)	1,250	Canada, South America.
Cotton (ls).....do....	25,000	100,000	[1] 10,000	75,000	Egypt.
Wood pulp.....do....	3,500,000	4,400,000	(?)	900,000	Canada.

CLASS III.

Article.	Military requirements.	Imports.	Source.	Controlled by—	Substitutes.
Rubber.....tons..	[1] 30,000	200,000	Orient.....	British.....	None.
Gutta-percha..do....	(?)	6,000	East Indies.....	British, Dutch....	Rubber, bakelite.
Shellac.....do....	(?)	13,000	India.....	British.....	Other gums.
Manila fiber...do....	(?)	70,000	Philippines.....	United States, Dutch.	Other fiber.
Silk.....do....	[1] 4,800	24,000	Japan, China.....	Japan.....	Cotton, wool, mohair.
Sisal.....do....	None.	150,000	Yucatan.....	Mexico.....	Cotton, manila.
Jute.....do....	(?)	180,000	India.....	British.....	Cotton, hemp, sisal
Flax fiber.....do....	(?)	7,000	England, Canada .	.....do.....	Cotton, silk.
Camphor.....do....	[1] 350	2,500	Orient.....	Japan.....	Synthetic camphor.
Cork.....do....	(?)	80,000	Spain, Portugal...	None.....	Kapok, sawdust.
Coconuts, etc..do....	(?)	315,000	Tropics.....	.....do.....	Other oils, hardwood, charcoal.
Licorice.....	(?)	25,000	Near East.....	.....do.....	Saccharine, molasses.

[1] Estimated military requirements for 1 year are based on 6 field Army plan.

TEXTILE INDUSTRY.

The textile industry generally embraces those industries in which animal or vegetable fibers are turned into articles of commercial importance by means of spinning or weaving. The principal textile industries of the United States may be summarized as follows:

Branch.	Number of plants.	Employees.	Per cent female.	Chief centers (States).	Value of output (millions of dollars).
Cotton.....	1,496	460,000	42	New England, South Atlantic.....	2,195
Wool.....	1,016	208,000	42	New England, North Atlantic.....	1,235
Knit goods.....	2,050	186,000	67	North Atlantic.....	713
Silk.....	1,369	136,000	58	.....do.....	688
Rope, cordage, twine..	120	19,000	40	New England, North Atlantic.....	133
Jute.....	26	7,500	52	North Atlantic.....	34
Linen.....	10	2,000	51	New England.....	7

Generally speaking the four great industrial areas of the United States in order of importance are the New England States, North Atlantic States, North Central States, and South Atlantic States. Domestic raw materials, generally speaking, are supplied by the Southern Central and Western States. Lines of supply are usually

from west to east by transcontinental railroads, supplemented by waterways, and from south to north by railroad, supplemented by coastwise shipping. Important raw materials are delivered mainly on the Atlantic seaboard, whence they move by short rail or water routes to industrial centers. To a lesser extent imported raw materials are received in Pacific ports, whence they move by long rail hauls to industrial centers.

The United States, producing the bulk of raw materials necessary, having industrial means for conversion of all materials produced or imported, and possessing adequate transportation facilities for distribution, is in a position of great strength. Raw materials, which normally are imported, but which in time of war might become critical, are rubber, wool, and hides. As long as either the Atlantic or Pacific sea lanes remain open, necessary supplies could be obtained. With all sea lanes closed, the situation would necessarily have to be met by "measures of conservation, reclamation, and substitution."

In event of external war, not only are our industrial centers peculiarly liable to attack from the east or north, but our principal railroad lines, being close to our borders, are subject to interruption by hostile acts.

In event of internal war, the concentration of industries in the districts noted, and supply lines leading thereto, are points of weakness.

CONCLUSION.

The strong economic structure of the United States—self-sustaining and self-sufficient in raw materials within the scope of this study, except rubber, wool, and hides—is well adapted to meeting the demands that may be placed upon it by external or internal war.

Finance.

EXISTING SYSTEM AND METHODS.

Since 1861, several important laws have been enacted looking to the betterment of our financial system, notably:

1. The act of June 3, 1864, "The national bank act," which was intended to provide a national currency secured by a pledge of United States bonds and to provide for the circulation and redemption of such currency.

2. The currency act of March 14, 1900, which had for its purpose the maintenance of a parity in the value of gold and silver coin and the maintenance of the gold standard.

The six panics during the 50 years prior to 1914 were largely attributable to inadequate and defective banking facilities. The

last one (1907) was the result of decentralization of cash reserves. At that time there were over 25,000 independent banks, each keeping a part of its reserve in its own vaults. In 1908, the Aldrich-Vreeland Act, a temporary measure, made provision for the organization of national banks into national currency associations.

The main defects of the system prior to 1914 were:

(*a*) Decentralization.
(*b*) Inelasticity of credit.
(*c*) Cumbersome exchange and transfer rates.
(*d*) Defectice organization as regards relationship with the Federal Treasury.
(*e*) Absence of adequate means for furnishing banking facilities to industries engaged in foreign commerce.

THE FEDERAL RESERVE SYSTEM.

The Federal reserve act of 1913 may be said to be an American invention especially adapted to meet the geographical and industrial conditions in this country. This act continues the thousands of independent banks with all their essential functions but federates them into a unified system. All national banks are required to be members of the system and State banks and trust companies are encouraged to join.

The main features of the system are:

(*a*) The Federal Reserve Board.
(*b*) The Federal Advisory Council.
(*c*) The 12 Federal reserve banks, operating in the 12 Federal reserve districts.
(*d*) Member banks (control and contact).
(*e*) Nonmember banks (contact only).

THE FEDERAL FARM LOAN ACT.

This act, approved July 17, 1916, and amended by the agricultural credits act of 1923, was an effort on the part of the Government to stimulate and to provide additional facilities for credit to the agricultural and livestock industries of the United States. Its main features are:

(*a*) The Federal Farm Loan Bureau, under the Federal Farm Loan Board, consisting of seven members, including the Secretary of the Treasury.
(*b*) Twelve Federal land banks.
(*c*) Twelve intermediate credit banks.
(*d*) Provision for the formation of national farm loan associations and national agricultural credit corporations.

THE BUDGET AND ACCOUNTING ACT.

The Budget and accounting act, approved June 10, 1921, provides for a businesslike conduct of the Nation's financial affairs. Under the Budget the President is charged with the presentation to Congress of balanced statements showing the assets and liabilities of the Treasury, receipts and expenditures during the last completed year, the estimated receipts and expenditures during the year in progress and his expenditure and revenue proposals for the year to come. These are prepared by the Bureau of the Budget, under the director. In connection with the preparation of the Budget are certain Government agencies, for the purpose of securing uniformity of methods and of coordinating the activities of the various departments in financial matters.

The act also created the General Accounting Office, under the control of the Comptroller General of the United States, for the purpose of providing for an audit of governmental expenditures and for furnishing Congress with information regarding the manner in which they have been made.

The Comptroller General, under the law, is a powerful factor in the conduct of the financial affairs of the Government.

PRICE CONTROL AND PROFITEERING.

During the World War we adopted price control as a means of preventing profiteering—the making of inordinate profits out of the war—and of reducing the costs of the war. Methods and organizations developed as problems came forward.

The establishment of the Council of National Defense and the Advisory Council of seven members (1916) was of prime importance. Out of these two bodies was evolved the Railroad, Fuel, and Food Administrations, the Shipping Board, the War Trade Board, and also through a series of developments, the War Industries Board, though no legislation was ever passed making specific provision for it. It set out to prevent competition among those buying for war.

The 14 months from August, 1917, to November, 1918, was the first experiment in price control. The priority system was an important factor in stabilizing prices and the power to requisition and to pay "just compensation" was a powerful weapon in compelling the acceptance of price determinations.

On March 14, 1918, the price-fixing committee was appointed under authority contained in a letter from the President to Mr. Baruch, March 4, 1918, giving the functions of the War Industries Board.

The system of price control used at the end of the war was to definitely establish price control from the raw stocks right through the prices of manufacture and trade to the retail customers. In order to be a success, price fixing had to have the cooperation of the people.

There can be no doubt:

(*a*) That price control aided very materially in the suppression of profiteering, and but for the fact that the war in Europe had already raised prices and that the system was not fully developed until the latter part of the war, it would have practically prevented it.

(*b*) That it had a marked effect in preventing the demoralization of the business of the country after the war.

(*c*) That for any future war requiring a maximum effort on the part of the United States, a similar system should be inaugurated prior to the outbreak of war and that the price-fixing agency be given legal power to act in all cases where the necessity arises.

POTENTIAL CAPACITY OF EXISTING FINANCIAL SYSTEM.

During the period from April, 1917, through April, 1919, the Government spent $23,500,000,000 and loaned to foreign governments $8,850,000,000 additional. The rate of expenditure increased during this period from $2,000,000 a day to $44,000,000 a day. The financial system of the United States was able to meet all of the financial problems presented with a minimum of interruption to the normal financial life of the community.

The United States raised its moneys for financing the war by a combination of taxes and borrowing. While the public debt was multiplied twenty times the financial condition of the country was still sound. Financial authorities are agreed that a pursuance of the same policy will insure the successful financing of a future war.

From the point of view of the ability of the United States to undertake and carry through a war requiring a maximum effort, a consideration of her present financial condition as compared with that in 1914 shows that in money in circulation, wealth per capita, and gold in the Treasury she is in a far better condition than in 1914; that the banking power of the United States is to-day more than twice her direct war costs.

CONCLUSIONS.

(*a*) That the financial system of the United States is on a sound basis.

(*b*) That the system and methods provide a means for smoothly and rapidly expanding the currency, provide elasticity of credit, an

easy exchange and transfer system, and furnish adequate means for banking facilities to industries engaged in foreign commerce.

(*c*) That the potential capacity is amply sufficient for financing a war requiring a maximum effort.

Railroads.

1. CLASSIFICATION.

There are over 2,900 railroads, with a total mileage of about 407,000, including terminals and switching facilities.

They are classified according to earning power:

Class I.—Those earning $1,000,000 or more annually.

Class II.—Those earning from $100,000 to $1,000,000.

Class III.—Those earning less than $100,000.

Class I roads number 164 and operate 234,157 miles of track and control about 95 per cent of all the railroads.

2. PERSONNEL.

In December, 1922, class I railroads had 1,788,590 employees organized into four principal brotherhoods and several subsidiary unions which are capable of interfering considerably with the operations of the roads, through strikes, as demonstrated by the switchmen's strike of 1921 and the shopmen's strike of 1922.

3. FINANCE.

Property investment of the railroads, December 31, 1921, was $25,039,857,406, of which about $21,450,000,000 pertained to class I railroads.

Railroads of the United States have, in a large part, been created by private initiative and enterprise and are owned by its citizens, savings banks, insurance companies, charitable, and educational institutions.

4. CONTROL.

While the railroads are operated in time of peace by private control, the Government exerts considerable power in their management through the Interstate Commerce Commission. The President has ample power by existing law to take over and operate the railroads in time of war.

5. TERRITORIAL DIVISIONS.

The railroads are divided into three districts, eastern, southern, and western; and these districts are subdivided into seven regions,

eastern, Allegheny, Pocahontas, southern, northwestern, central-western, and southwestern.

6. RAILWAY SYSTEMS.

(*a*) The eastern and southern districts have 96 class I roads and 102,459 miles of track. There are six principal east and west systems with six rocade lines having a total of about 75 per cent of the entire mileage of the two districts. Two lines are dangerously close to the Canadian border in case that border was threatened by war. Seven lines intercept the Canadian border, three in New England and four in New York State.

(*b*) The western district has 14 principal east and west systems, with four important rocade lines, operating 68 class I roads and a mileage of 131,698. Three systems parallel the Canadian border and one the Mexican border, and, in case of invasion from the above borders, are dangerously located. Ten lines pierce the Canadian border, four between St. Paul and North Dakota, and six west of North Dakota to Puget Sound—five east of the Cascades and one west thereof. Six lines cross the Mexican border from Brownsville, Laredo, Eagle Pass, Nogales, and two from El Paso.

(*c*) *Terminals.*—The vitals of a railway system are its terminals whose capacity and efficiency determine the flow of traffic. Chicago, the largest terminal, is the clearing house for east and west freight. It has three belt lines called inner, middle, and outer, the latter of which, during the World War, handled all through freight, except perishable, which was routed via the middle.

(*d*) *Critical points and bottle necks.*—(1) Some of the important critical points are:

a. Crossings of the Hudson River by New England and connections.

b. Bridges over the Susquehanna, particularly near Havre de Grace.

c. Bridges over the Missouri River at Omaha, St. Joseph, and Kansas City, and over the Mississippi River at St. Louis and Memphis.

d. Tunnels at Hoosac, New York City, Baltimore, Detroit, Port Huron; and numerous tunnels on the railway lines crossing the Cascade, Rocky, and Sierra Nevada Mountains, making them extremely vulnerable to interruption.

e. Bridges over the Pecos River in Texas and over the Colorado River at Yuma and Needles, Ariz.

(2) Important bottle necks occur at the long bridge over the Potomac River, south of Washington, D. C.; Spokane, between Mojave and Bakersfield; approaches to San Francisco from south,

east, and north; and the North Broadway Bridge at Los Angeles are good examples.

7. CONCLUSIONS.

(*a*) That the eastern and southern districts have sufficient railway mileage for the present needs of peace and war. In the western district there should be an increase in main track mileage in time of war in the Rocky Mountain and Pacific coast areas to preclude embarrassment from interruption and consequent overloading of other lines.

(*b*) That the eastern and southern districts have sufficient rocade lines. In the western district such is not the case. An interruption of the Shasta line, the direct connection between the California and Puget Sound areas, would divert traffic to the Pocatello line or farther east. Lateral communication is also very weak in the Mojave-Bakersfield area.

(*c*) That the construction of all railroad lines approaching the Pacific coast, in the western district, is such as to make them especially vulnerable to interruption, and that the extreme northern and southern lines are dangerously exposed to interference in case of threatened invasion from Canada or Mexico, respectively.

(*d*) That the President has ample power by existing law to assume control of the railroads in time of war or internal disorder.

(*e*) That special effort should be made to have the railway systems consolidate and unify their operations, thus putting them in better shape for war-time operation.

(*f*) That flow of traffic depends principally on the capacity and efficiency of terminals.

(*g*) That all shipments of freight should be prohibited until the terminals are prepared to receive the cargo and the consignees ready for prompt acceptance and removal.

(*h*) That the terminals must be kept clear to insure the unrestricted flow of traffic.

8. EQUIPMENT.

(*a*) *Amount.*—Following equipment was operated by class I roads on dates indicated:

Locomotives, Sept. 1, 1923	61,659
Freight cars, Sept. 1, 1923	2,271,943
Passenger cars, June 30, 1923	54,323

Private corporations own about 225,000 freight cars and 6,900 sleeping cars are owned by the Pullman Co. Of the above numbers, 21 per cent of the locomotives and 8 per cent of the freight cars were awaiting repairs.

(*b*) *Classification and ratio.*—(1) Locomotives are classified into passenger, freight, switch, and unserviceable. Each region has about one passenger and one switch to two freight and two unserviceable. Pocahontas region has one passenger to four freight.

(2) Freight cars are classified into coal or gondola, box, flat, refrigerator, tank, and stock. There are about 11 coal, 10 box, 3 unserviceable to 1 each flat, refrigerator, tank and stock.

(3) Passenger cars are classified into coach, baggage and express, sleeping, dining, postal, and parlor. There are about 21 coaches, 10 baggage and express, 5 sleepers to 1 dining car.

(*c*) *Average capacity.*—(1) Freight cars, in short tons: Box, 37; flat, 39; stock, 34; coal, 49; tank, 41; refrigerator, 32.

(2) Passenger cars: Old wooden coaches, 56 to 67 persons; steel coaches, 76 to 88 persons; sleeping cars, 36 to 48 persons.

9. CONCLUSIONS.

(*a*) That there are insufficient box, coal, stock, and refrigerator cars to meet the needs of peace-time peak production. However, by consolidation and pooling of equipment and facilities it is believed this apparent shortage could be largely, if not altogether, eliminated.

(*b*) Should the line of traffic on the Great Lakes be blocked, plans should be provided for the diversion of iron ore and grain traffic from the Great Lakes to the railroads. Such a diversion would be a great strain on the railroads in the near northwest region and a serious problem of car equipment. However, by strict attention to unification and pooling of capacity under one regulatory system it can be done, and whether or not it should be done would depend upon the urgency of the demand as compared to other demands for the same equipment. The water-borne traffic of the Great Lakes could not be diverted to the railroads, if major military operations were being conducted in the near northwest region at the same time.

(c) Immediately upon the outbreak of war to take the following action:

(1) Unify the railway systems and pool their equipment.
(2) Institute the "permit system" and spot no cars for supplies until space and facilities for unloading are assured.
(3) Eliminate circuitous routes.
(4) Curtail shipment of luxuries and nonessentials.
(5) Load and unload cars promptly.
(6) Load cars to their maximum capacity.
(7) Use solid train movements where practicable.
(8) See that spare parts of equipment are standardized and that repairs, when necessary, are made promptly.

(9) Start a building program to replace normal equipment plus losses through unavoidable causes.

(10) Adjust car shortage through a central body having representatives in large centers of activity.

(11) Have plans ready for distributing the added burden on the railroads, in case control of the Great Lakes, the Pacific, the Atlantic, or Gulf of Mexico is lost.

10. RAILROAD CAPACITY FOR MILITARY OPERATIONS.

(*a*) The average freight-train load in the East is 900 tons—all over the United States 600 tons. For every 10 tons of rated freight it is assumed that 8.5 tons of military supplies can be transported. Average troop capacity of trains is assumed as 400. Supply is based on the assumption that the daily requirements per man will be 30 pounds, exclusive of lumber, fuel, constructing materials of all kinds, gasoline, and no provision for the accumulation of a reserve.

(*b*) *Concentration in middle Atlantic area for overseas expeditions, operations within the area, or for internal disorder.*—This area has the densest railroad net of any area within the United States. Using five of the six main east and west systems which enter the area from the West, and which are double-track or better, the following troops or supplies can be concentrated:

	Daily.	Monthly.
Troops	96,000	2,880,000
Supplies (tons)	122,400	3,672,000

These amounts far exceed the peak amounts during the World War, which were: Troops, July, 1918, 1,147,013; average per month, 504,343, from May 1, 1917, to April 30, 1919.

Supplies: November, 1918, 810,000 tons; from January 1, 1918, to December 31, 1918, 5,800,000 tons.

(*c*) *Concentration in New England area.*—Five through single-track lines connect this area across the Hudson River, having a daily capacity of 48,000 troops or 61,200 tons of military supplies.

(*d*) *Northern frontier, New York and New England.*—Seven single-track lines reach the border on this front. They should be able to deliver daily 67,000 troops or 85,680 tons of military supplies.

(*e*) *South Atlantic area.*—Due to restrictions imposed by the bridges over the Potomac River at Washington, D. C., and Harpers Ferry three single-track lines can be used which can deliver 29,000 troops or 35,500 tons of military supplies. Entering from the Middle West three double-track lines can be used having a daily capacity of 57,000 troops or 73,100 tons of military supplies. Combined capacity

of above lines into this area would be daily 86,000 troops or 109,650 tons of military supplies.

(*f*) *Mexican border.*—Troop movements would be limited to the single-track line of the Southern Pacific, except at El Paso which is the junction point for four single-track lines. Daily capacity at El Paso 38,400 troops or 48,960 tons of military supplies; along the border west of El Paso about 10,000 troops or 12,750 tons of military supplies.

(*g*) *For operations on the Pacific coast or in an Asiatic theater.*—Concentrations in this area from east of the Rocky Mountains are limited to eight through tracks which enter the area. Considering that these tracks across the mountains could only handle about one train per hour their daily capacity would be 33,600 troops or 42,840 tons of military supplies.

Electric Railways.

Electric traction lines have little strategic value, although certain of the interurban lines, notably in the Great Lakes region and on the Pacific coast, could be utilized in local military operations.

Inland Waterways.

GREAT LAKES SYSTEM.

Of the 100,000,000 tons of cargo annually moved on the Great Lakes, the vital element consists of the fifty-odd million tons of iron ore, *all east bound*, that move through the canals and locks at Sault Ste. Marie, Mich.

Any interruption of the movement of this ore would cripple the steel industry as the railway system would not be able to assume the burden of this traffic movement except with extreme difficulty.

The critical points of this system are the locks at Sault Ste. Marie, Mich. The nature of these locks as well as their location on an international boundary make them extremely vulnerable to destruction.

In time of war, not only must adequate measures be promptly taken to protect them from destruction but the military control of the Great Lakes must be securely held.

The floating equipment of the Great Lakes is ample for any major emergency.

Navigable rivers and canals.—Although these systems have great potentiality, their condition at the present time makes them of limited military value.

The Mississippi River would be of importance in traffic from the interior to the Gulf.

The coal movement on the Monongahela is an essential link in the steel industry.

The New York Barge Canal system will not only increase traffic facilities but also afford the only national waterway from the upper lakes to the seaboard.

The equipment on these waterways is inadequate.

Animal Transport.

Animals.—Although there is a very large animal equipment in the United States, the trend has constantly been toward a decrease, due to economic causes.

This is especially true of horses of the cavalry type.

The limitations imposed in the utilization of these animals for the equipment of the military forces makes it necessary to take them from cities for the initial equipment.

It is estimated that it will require a period of three months to secure the equipment for 1,000,000 men, and one year for 3,000,000 men.

From this number it will be necessary to select the most suitable for cavalry mounts.

There will be no shortage in wagon or leather equipment.

Motor Transport.

The motor-vehicle equipment within the continental limits of the United States is distributed generally according to population.

The automotive industry is practically confined to southern Michigan and northern Ohio, although certain affiliated industries are located throughout the national industrial area.

In time of emergency, 75 per cent of the automotive industry would be diverted to the production of other munitions.

Of the many factors that limit the utilization of the existing automotive material, the most essential is the necessity of restricting the number of makes and types of vehicles composing the military equipment.

There will be no difficulty in securing passenger-car equipment sufficient to conform to any possible mobilization rate.

It is estimated that there will be an initial motor-truck equipment sufficient for a force of 500,000 men.

In one year, due to intensive production of plants allocated therefor, there will be sufficient for the equipment and maintenance of a force of 2,500,000 men.

The shortage in this equipment may be relieved, in emergency, by the use of trucks nonstandard to the Army, especially during mobilization but this relief would be but temporary.

It is estimated that there would be an initial motorcycle equipment sufficient for 1,000,000 men, and one year thereafter, for 3,000,000 men.

The critical elements as to the materials essential to motor-vehicle equipment are the supply of steel, dependent on the Great Lakes route and the supply of materials such as antimony, manganese, platinum, tin, and rubber which must be imported.

The automotive industry is practically confined to a district extremely vulnerable to a hostile effort from the north, and any destruction of this area would seriously cripple the industry.

Roads.

Although not more than 12 per cent of the public roads of the country have been improved, there is a systematic plan for the development of the national highway system.

In the formulation of this plan due weight has been given to the War Department project for the development of the highways for national defense.

The type of road is based on prevailing traffic conditions, but all hard-surfaced roads will carry the heavy military loads. On other roads reconnaissance will be necessary to determine capacity of structures.

As no comprehensive report is issued as to road conditions, information thereof must be obtained from all available sources, the most important of which are the American Automobile Association, National Motorists Association, and the State highway departments.

The practicability of these roads for highway transport must be deduced from known climatic conditions and knowledge of vehicle operation.

Utilization of Highways.

While the commercial use of the highways in long-distance hauling is rapidly increasing, the War Department has published a project for the utilization of motor transport on the highways to relieve railway traffic as well as to provide increased transport facilities in time of internal disorder.

This plan contemplates the relief of the railways of the short haul and terminal traffic by the substitution of a motor transport service covering an approximate distance of 50 miles from terminals.

Whatever the extent that this system may be applied commercially, it can be put into operation as a war measure and will be an important aid in increasing the output of the national transportation system throughout the emergency.

Information Ways and Air Ways.

radio.

Radio as a means of communication is of tremendous importance for the reason that the range of its great possibilities have not even

in part been conceived of by those now making use of it. All of the commercial and amateur stations are under the control of the Department of Commerce, and can readily be used for war time purposes.

Radio stations in the United States.

Commercial ship stations	2,723
Commercial shore stations	45
Commercial transoceanic stations	12
Commercial point-to-point stations	179
Commercial broadcasting stations	563
Experimental stations	281
Technical and training stations	127
Special amateur stations	178
Amateur stations	16,570
Government land stations	290
Government ship stations	1,009
Total	21,977
Commercial operators	5,996

Conclusions.—The United States has ample radio facilities to meet any emergency.

Information Ways.

1. Information ways in the United States are entirely adequate for any emergency. There are 28,000 telegraph offices which connect up 23,000 cities, towns, and villages. Controlled by the American Telephone & Telegraph Cos., the Western Union, and the Postal Service. These form a connecting link between all sections of the United States thereby making it possible for almost immediate communication between any section by telegraph. Eighty per cent of all telegrams are automatically transmitted by typewriter printers.

2. There were 14,000,000 interconnecting telephones in the United States in 1922, which allows one telephone to each eight persons. It is now commercially practicable to telephone from Seattle, San Francisco, and Los Angeles to Halifax and Havana. Between Washington and Boston there is an underground cable which carries many hundreds of wires capable of transmitting thousands of messages daily. Between New York and Chicago there is also an underground telephone cable; between these points there is also an aerial cable. Aerial cables connect Chicago with the entire Pacific coast from Seattle to Los Angeles, also aerial cables connect Washington, New York, and Boston with Key West, and a submarine cable connects Key West with Havana, thereby making it possible for business to be transacted by telephone with nearly every large and small city, village, and in most instances every township in the United States.

3. The Bell Telephone Co. owned in 1922, 8,333,979 stations and had connections with 4,267,956, making a grand total of 12,601,935 controlled by this company. The Bell Telephone Co. employs 231,316 employees, and controls 25,377,404 miles of wire. The average number of messages daily sent over telephones owned or controlled by the Bell system numbers approximately 35,000,000. "Average daily messages" represents the number of messages during the year 1921 and includes local, toll, and long-distance messages. Figures for employees, miles of wire, and average daily messages do not include statistics for the independently owned companies which connect with the Bell telephone system.

4. The total number of telephones, without regard to ownership in use in the United States at the present time, numbers approximately 14,000,000.

Conclusions.—(*a*) The telephone and telegraph facilities are adequate to meet all requirements during peace or war.

(*b*) In time of war both telegraph and telephone lines should be amply protected.

CABLES.

1. Twenty-four cables land upon the United States. Eighteen are owned by commercial institutions in the United States. Of the remaining six, three are rented from the British by the Western Union Telegraph Co. and three are owned by the French.

2. The United States has ample cables to Great Britain, but has only one cable direct to France that is not subject to British censorship. It has two cables to Panama on the east coast and three cables from Galveston to Vera Cruz. Mexico can also be reached by cable at Salina Cruz via Panama. There is no cable communication from the United States on the west coast to either Mexico or Panama.

3. There is one cable to the Philippines entirely under United States control.

Conclusions.—(*a*) That the United States should secure direct cable communication with the important islands of the West Indies now subject to foreign censorship.

(*b*) The direct cables should be laid to Panama on the west coast to insure cable communication with that important point in event of war.

(*c*) That an additional cable should be provided for communication with Honolulu and the Philippines.

AIRWAYS.

1. Conditions are critical in the Air Service with respect to aircraft on hand, on order, and prospective purchase from now available funds or those that will be available in the fiscal year 1924. The aircraft now available or that will be available in the near future on the basis of the 1923 and 1924 appropriations are as follows:

	Airplanes.	Airships.	Balloons.
July 1. 1923	1,970 (1,531 war produced)	9	219 (200 war produced).
July 1, 1924	988 (686 war produced)	11	64 (50 war produced).
July 1, 1925	576 (204 war produced)	9	38.
July 1, 1926	289 (102 war produced)	6	29.

2. The larger part of the aircraft now on hand was produced during the war and is deteriorating rapidly. Eighty per cent of these airplanes are of an obsolescent training type or are unsuitable for combat use. It is essential that new aircraft be provided to replace that built during the World War, and that additional aircraft be purchased to make up the deficit that is increasing rapidly. Since it now requires about 18 months to secure delivery of aircraft after the contract has actually been executed, it is evident that no relief can be expected for the present situation before 1925. Appropriations now being made for the Air Service for the purchase of new aircraft are inadequate for the requirements of the existing reduced peace establishment of the Air Service, or even for the necessary annual replacements therefor. The requirements of the existing reduced peace establishment including the war reserve for overseas garrisons are as follows:

	Airplanes.	Airships.	Balloons.
Continental United States	1,003	10	12
Overseas garrisons	652		13
Total	1,655	10	25

3. A comparison with this table and the one above clearly indicates that unless steps are taken to improve conditions in the Air Service it will in effect be practically demobilized at an early date.

4. The aircraft industry in the United States at present is entirely inadequate to meet peace and war requirements.

5. The development of commercial aviation will stimulate the aircraft industry, but orders from the military service must be depended upon, at least for the immediate future, if this industry is to be kept alive.

6. The minimum peace establishment in matériel and personnel to meet M day requirements of the War Department mobilization plan are as follows on a 3 Army plan:

	Officers.	F. cadets.	Enlisted men.	Air-planes.	Air-ships.	Bal-loons.
Combat forces, United States	1,984	.....	11,892	1,305	12	20
Overseas garrisons	576	.....	3,945	261	.....	6
Zone of the interior	1,440	2,500	9,163	[1] 934	8	12
Total	4,000	2,500	25,000	2,500	20	38

[1] Including 602 training planes.

7. The above will train sufficient flying personnel to maintain in the Organized Reserve, National Guard, and Regular Army the airplane flying personnel for these field armies, the airship pilots for only two field armies, and the balloon observers for only one field army.

8. The zone of the interior can produce additional trained personnel after M day as needed. The equipment listed includes the reserve necessary to bring the peace establishment to war strength. The greatest possible number of reserve officers on active duty should be used as a part of the 4,000 officers required for the peace establishment.

9. The peace establishment indicated in the preceding paragraph can be expanded to meet probable war requirements as set forth in War Department mobilization plans. This 6 Army plan calls for:

Officers	22,616
Enlisted men	172,920
Airplanes	8,756
Airships	36
Balloons	134

10. The requirements of the peace-time establishment in matériel can be met by adopting a peace-time production program extending through a period of approximately 10 years with annual appropriations sufficient to meet adequately the needs of the program.

11. It is estimated that the annual appropriations required to make this program effective exclusive of pay, upkeep and housing of personnel, will be approximately $25,000,000, of which approximately $10,000,000 would be for operating expenses and $15,000,000 for purchase of new aircraft, the first amount increasing and the second decreasing as the program develops, the total remaining at about the sum stated.

12. The Navy at present has 346 planes in operation. The number of planes planned by the Navy is 888. These are included in a five-year program. Two hundred and twenty-seven planes are now ready

or in the process of construction. The remaining 661 are planned for in a building program covering five years to end in 1928.

13. In event of war the Navy would need in addition to the airplanes now on hand 2,131 planes as a war increase over the five-year building program, already planned for.

14. The naval program as a war measure contemplates the expenditure of $157,000,000 the first year of war.

15. The Post Office Department has a direct air mail route from New York to San Francisco with a 29-hour schedule between these points.

16. Up to November, 1922, the Army Air Service had planned landing facilities in every State in the Union numbering over 200 fields with ability to accommodate a group of any of the present types of aircraft.

Conclusions.—(*a*) Congress should appropriate more money for the upbuilding of the air service than it has in the past. The full amount asked for by the Chief of Air Service should be appropriated.

(*b*) Large need for more propaganda for commercial flying. This will affect the Army by adding facilities in event of war to build more airplanes.

(*c*) A greater spirit of nationalism in the United States should be developed. Our Nation is splendid in time of stress but woefully negligent in time of peace.

Foreign Commerce and Shipping.

EXPORTS AND IMPORTS.

In 1920 the total foreign trade of the United States amounted to 13½ billions of dollars with a favorable trade balance of almost 3 billions. In 1923 this foreign trade decreased to less than 8 billions of dollars with a favorable trade balance of only 176 millions. Principal causes of this decrease are: Europe's recovery from the World War, our increased home consumption, decline in prices, and large imports of merchandise in payment of interest on American investments abroad.

In value, manufactures formed 48 per cent of our exports and 37 per cent of our imports, raw materials for use in manufactures 26 per cent of our exports and 39 per cent of our imports, raw foodstuffs and food animals 25 per cent of our exports and 23 per cent of our imports.

Cotton, mineral oil, wheat, and coal are our principal exports; silk, sugar, coffee, rubber, wool, hides, and wood pulp are our principal imports.

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Europe is the most important factor in the commercial value of our foreign trade, followed by North America, Asia, South America, Oceania, and Africa in the order named.

DEGREE ESSENTIAL IN WAR.

The United States is dependent, wholly or in part, upon South America for coffee, hides, iodine, flaxseed, nitrates, quinine, rubber, tungsten, wool, and tin; upon Asia for graphite, hides, jute, hemp, quinine, rubber, shellac, silk, tungsten, and tin; upon North America for nickel, flaxseed, and sugar; upon Oceania for chromium and wool; upon Africa for chromium, graphite, and tungsten.

CONCLUSIONS.

Command of the sea routes to South America is considered first in importance to the United States and indicates the vital significance of the Panama Canal to this country. Second in importance is command of the sea routes to Asia.

Blocking completely all sea routes to the United States would seriously embarrass its war-making ability. This country, however, is probably more nearly self-sufficient than is any power or coalition of powers that could completely close its ocean-trade routes. Even though we were deprived of our oversea importations, it is believed that the loss to the enemy of the immense amount of vital supplies produced by us would embarrass, to an equal, or greater, extent, his ability to carry on the war.

VESSELS AND TONNAGE.

Considering only seagoing vessels of 1,000 gross tons and over, the merchant marine of the United States on September 1 last consisted of 3,019 vessels of 12,700,000 gross tons, 700,000 tons being steam or gas propelled. Of these, 1,345 vessels of 6,173,000 gross tons are controlled by the United States Shipping Board, a Government activity.

IDLE SHIPPING.

Eight hundred and seventy-five vessels of 3,700,000 gross tons, controlled by the United States Shipping Board were tied up on October 5 last. Two hundred and two privately owned American vessels of 470,000 gross tons were tied up on June 30 last. Cause: Excessive shipping and unsuitable construction, due to war production.

AVAILABILITY OF TIED-UP SHIPPING.

Of the 3,700,000 tons of tied-up shipping controlled by the United States Shipping Board, it is estimated that 200,000 tons are unserviceable; that 60 per cent of the remainder can be placed in seagoing condition and supplied with crews in two to three months; the remaining 40 per cent in four months.

STEAMING RADIUS.

Average steaming radius of Shipping Board vessels, 10,000 miles.

TONNAGE UNAVAILABLE FOR ARMY USE IN WAR.

For economic needs, 3,000,000 gross tons.

For the Navy in a war on the Atlantic, 3,000,000 gross tons; in a war on the Pacific, 6,000,000 gross tons.

MATERIAL FOR SHIPBUILDING.

The United States is independent in this respect.

SHIPBUILDING.

Steady decline from 4,000,000 tons under construction in 1919 to 133,000 tons under construction on June 30 last.

FUEL STATIONS.

United States Bureau of Navigation states that all United States ports are well equipped with oil and coal bunkering facilities and can care for all demands of our shipping.

Oil stations outside of United States: Cuba, 550,000 barrels; Canal Zone, 884,000 barrels; Honolulu, 1,450,000 barrels; Manila, 165,000 barrels; Standard Oil negotiating to place tanks holding 900,000 barrels in Manila; Virgin Islands, 165,000 barrels.

Coal stations outside of United States: Cuba, 70,000 tons; Panama Canal Zone, very large; Honolulu, 5,000 tons; Manila, 5,000 tons.

DOCKS AND YARDS.

In 1919 there were 223 yards and 1,099 ways in the United States. Estimated that 85 per cent of these are still in existence, and that 4,000,000 tons of shipping can be under construction within nine months from outbreak or war. Probable time of construction for such yards at Squantum, Mass., and Hog Island, to include completion of first vessels, 12 to 15 months.

PORTS.

New York can handle 100,000 men a day, excluding commercial business, or more than 3,000,000 tons of cargo per month; Norfolk, Newport News combined, 40,000 men per day or 187,000 tons of cargo per month; Boston, Philadelphia, Charleston, and New Orleans are well equipped to handle large movements of troops and cargo; San Francisco can handle 30,000 troops daily or 1,700,000 tons of cargo monthly; Seattle 20,000 troops daily or 2,400,000 tons of cargo monthly; Los Angeles 6,000 troops daily or 810,000 tons of cargo monthly; San Diego 4,000 troops daily or 500,000 tons of cargo monthly. Complete Army supply bases have been completed at Boston, South Brooklyn, Port Newark, Norfolk, Philadelphia, Charleston and New Orleans.

CONCLUSIONS.

It is believed that sufficient American shipping is available on comparatively short notice to transport troops and supplies to any country as rapidly as they can be mobilized under our present plans and transported to ports of embarkation.

It is believed that American shipping can maintain a force of 3,700,000 men in a European theater of war and a force of 1,150,000 men in an Asiatic theater of war.

Refueling in the eastern Pacific would be difficult until additional oil and coal bunkering facilities were provided west of Honolulu.

The present strength of our merchant marine is due solely to World War construction and is but temporary. Government encouragement by subsidies or other measures to stimulate activities of private shipowners and builders is necessary to prevent its rapid decline.

Power, Fuel, and Industries.

(Except food and textiles.)

The important sources of power are coal, petroleum, natural gas, and water.

COAL.

The United States contains over one-half the world's supply. Our annual production is 45 per cent of the world's output. The best grades, including all anthracite, are produced east of the Mississippi. The Appalachian field produces over 70 per cent of our total output.

Production in 1918 of over 675,000,000 tons, in 1922 of 460,000,000 tons. Consumption approximately equal to production. Annual exports of about 4 per cent of output. Mines normally operated at 70 per cent of capacity.

Two-thirds of coal utilized for generation of power (one-half in industries and one-half in transportation system). Remaining third used for domestic heat and manufacture of coke and coal products.

Eighty-seven per cent of coal output reaches market by all-rail delivery. Five per cent goes by rail to Great Lakes, thence by boat to consumers in Canada and our Northwest. Thirty-five per cent of all railroad traffic is coal.

During the World War a coal shortage threatened, due to difficulty in transportation and distribution. The Fuel Administration eliminated the danger.

PETROLEUM.

The United States contains largest known deposits and produces annually two-thirds of world's output. Production in 1922 of 551,000,000 barrels.

Consumption has exceeded production for seven years. Consumption in 1922 of 579,000,000 barrels.

Imports of 125,000,000 barrels in 1922. Exports less than 1 per cent of imports. Principal source of imports, Mexico.

Oil resources well distributed over the United States. About 10 per cent produced east of Mississippi, 62 per cent in mid-continent and Gulf fields, 4 per cent in Wyoming fields, and 24 per cent in California fields. Over 60,000 miles of pipe lines connect the mid-continent and Gulf coast fields with ports on the eastern coast.

Estimates place life of our oil fields at from 10 to 20 years.

Crude petroleum is converted into four important products: Fuel oil, gasoline, kerosene, and lubricating oil.

Attention is being given to methods of conserving oil resources in view of their limited life. The principal ones are:

(1) Development of new oil fields at home.
(2) Elimination of wastes in production.
(3) Greater extraction of values; that is, improvements in methods of refining.
(4) Development of foreign sources of supply.
(5) Development of substitutes for gasoline and fuel oil.
(6) The development of oil shale. Considerable activity in this respect in Colorado and Utah. Progress on large scale will be retarded by limited rail facilities.

NATURAL GAS.

Distribution generally same as oil fields. Principal production in West Virginia and Oklahoma.

Annual production averages 800,000,000,000 cubic feet. About one-third used for domestic heat, remainder consumed in the industries.

Important to us in its use as a substitute for coal and because it is our sole source of helium.

Production of natural-gas gasoline receiving increased attention. Important as a supplement to petroleum source.

WATER POWER.

United States Geological Survey estimates potential capacity available for ultimate economic development as about 55,000,000 horsepower. Of this amount only about 10,000,000 horsepower is at present developed.

Distribution of water power is country wide. Areas such as Pacific coast and New England, distant from coal, have a large capacity in water power.

Great interest in the development of water power is evidenced at this time. The Federal Power Commission has applications for the development of over 20,000,000 hydroelectric horsepower.

Superpower projects, having for their object the joining of hydroelectric supplies to steam power producing plants and the creation of large unified systems distributing power from plants of maximum capacity and efficiency are in process of development. Such systems, on a small scale, already exist in New England, on the Pacific coast, and elsewhere. Others are being developed in New York and Pennsylvania.

POWER.

During the last war the total generating capacity of this country exceeded 30,000,000 horsepower. To-day it is approximately 50,000,000 horsepower, about equally divided between manufactures and public utilities.

The use of electric power in manufacturing industry steadily increases. This decreases coal consumption, relieves the burden on the transportation systems and reduced manpower necessary in industry. Development of the superpower systems will solve most of the difficulties encountered in the World War power situation.

MANUFACTURING INDUSTRIES.

Our manufacturing industries are concentrated in the northeastern portion of the United States. Over 70 per cent in the area east of the Mississippi and north of the Ohio River line—south boundary of Pennsylvania.

Our basic war industry—iron and steel—is mainly concentrated in Pennsylvania and Ohio, with a growing development of blast furnaces in Alabama. Over half of our automobile production comes from Michigan and nearly 65 per cent from Michigan and Ohio combined.

New England possesses 14 per cent and the States of Ohio, New York, New Jersey, and Pennsylvania about 57 per cent of the manufacture of electrical machinery and supplies. In the New England States and Ohio is found approximately 60 per cent of the machine-tool industry.

In the Niagara Falls-Buffalo region is concentrated nearly all the electrochemical, electrolytic, and electric-furnace industries producing chlorine, phosphorus, abrasives, aluminum, calcium carbide, electrodes, ferrosilicon, and other ferro-alloys.

The leather and boot and shoe industry is largely localized in New England, New York, and Pennsylvania. Missouri possesses 10 per cent and its proportion is increasing.

The manufacture of brass, bronze, and copper products is concentrated in New England, New York, and New Jersey. Thirty-seven per cent of the copper smelting and refining is done in New Jersey.

The chemical industry presents its greatest development in the Middle Atlantic States. Explosive manufacture chiefly in Maryland, New Jersey, and Pennsylvania.

Ohio contains over 50 per cent of the rubber industry. New England about 10 per cent.

Seventy-five per cent of the paper and wood pulp industry is divided between New England, Middle Atlantic, and East North Central States.

The flow of raw materials to our factories is principally west to east, with a lesser movement from south to north.

Experience has demonstrated that mobilization of industries requires time and proper control and coordination. Time because our production of many essential items will be approximately a year behind man power, and control to prevent unbalanced and unnecessary production.

Plans for industrial mobilization in time of war are now in process of development. Much progress has been made. Specifications for supplies are being standardized and wherever possible commercial standards adopted. Requirements are being computed and balanced against stocks on hand. Studies are made to determine where and how required supplies are to be procured. Regional districts have been established and to these are allocated a proper share of the requirements, and in these districts tentative war orders are being placed or allocated to commercial industry.

CONCLUSIONS.

Fuel.—Our resources of power and the productive capacity of fuel supplies are sufficient to meet our requirements in peace or war.

The transportation and disposition of coal in time of war will require the control and coordination of an agency such as the Fuel Administration. The movement of coal to New England will be a serious problem if tidewater transportation is eliminated.

Although largely independent of rail transportation, the distribution and consumption of petroleum and its products will also require coordination and control. If the foreign supply is threatened, it will be necessary to conserve our resources and resort to substitutes for gasoline and fuel oil. The California field will be an attraction to the enemy in case of war with an Asiatic power. The movement of California oil to New York via the Panama Canal will be a subject for consideration in time of war.

Every effort should be made to utilize natural gas and hydroelectric power wherever possible to replace coal and relieve the transportation problem.

Power.—There is sufficient generating capacity to meet any probable requirements of a major military effort. Due to lack of interconnection certain districts might develop power shortages. However, it is believed that with proper control and coordination of power distribution this could be avoided. Stress should be placed upon necessity of so allocating contracts that congestion in important districts like New England, Niagara, and Pittsburgh could be eliminated and power demands made to meet requirements.

The strategic importance of the Niagara-Buffalo district with approximately 500,000 horsepower and its important industries, in any war involving a possible enemy on the north, can not be overestimated.

Industry.—Our productive capacity and ability to expand and convert to war-time demands is sufficiently great to meet any emergency. Just as in the case of power and fuel, however, proper mobilization of industry will require control and centralized coordination. In addition, time will be necessary to convert many peace-time activities to munitions production. An agency similar to the War Industries Board will again be necessary.

The concentration and localization of our manufacturing industry is a source of weakness in case of an invasion from the north or east. For war in a European theater it is an advantage, as the flow of raw materials to finished products and thence to issue and consumption would be continuous. For war on the Pacific coast or in an Asiatic theater, it is a handicap, adding greatly to the transportation problem and requiring long lines of supply.

Our most vital region from an industrial viewpoint is the New England and Middle Atlantic States. This is also our most vulnerable region in any war with an enemy powerful enough to invade us from the north, east, or northeast.

Considering specific needs of the War Department, the most critical problems to be met in a major effort, in the future, will be the supply of ordnance, munitions, and aircraft.

In the ordnance field the most serious problem will be to meet the requirements for artillery ammunition. Our present reserve of 75-mm. and heavy howitzer ammunition are sufficient but there is a critical shortage in 155-mm. ammunition, particularly that for the 155-mm. gun. It takes approximately one year to reach a production equal to estimated expenditures in the field. Our reserve of this ammunition should be increased and adequate reserves of ammunition maintained.

Large stocks of airplanes can not be kept on hand and commercial aviation should be developed and expanded to provide a sufficient reserve.

Food Situation.

1. PRODUCTION AND REQUIREMENTS.

The United States produces 103,000,000 tons of essential foodstuffs yearly.

The food requirements of the country, based on a balanced ration, amounts to 58,000,000 tons yearly.

A comparison of the food production and requirements shows that the country produces 44 per cent more food yearly than it requires, that there is a shortage of sugar amounting to 1,000,000 tons, or 50 per cent of the yearly requirement, and a shortage of 626,000 tons of coffee and tea, or 100 per cent of its yearly requirements.

2. IMPORTS.

The above shortage is made up by importation of these items principally from countries bordering on the Caribbean Sea, sugar being received principally from Cuba and coffee from Brazil.

In case of war the loss of our Caribbean trade route and the Panama Canal would cause a shortage in the United States that would be hard to overcome; such a loss would force the country to increase importation from Pacific points, to increase production of sugar, and to resort to conservation and the use of substitutes.

3. SAVINGS.

Sugar.—In order to reduce this 1,000,000-ton shortage of sugar the consumption of this item should be limited by Federal control in time of war. This Federal control is dependent upon the voluntary cooperation of the people. During the World War a saving

of from 400,000 to 600,000 tons of sugar was made during the year 1918 by such Federal control of consumption and it is believed that an even greater saving can be made in a future war; it should be noted that the average individual yearly consumption of sugar amounts to 95 pounds while the individual requirement is only 43 pounds.

To further reduce this shortage of sugar the use of corn sugar as a substitute for cane and beet sugar would be necessary. On account of the large production of corn in the United States this substitute could be produced in sufficient quantity to meet the needs of the situation.

Coffee.—The shortage of coffee can only be made up by conservation and the use of substitutes in case our supply is cut off. Like sugar, Federal control of consumption would be necessary.

4. WAR RESERVE.

A consideration of the above shortage and the means of overcoming the same results in the conclusion that the United States should acquire and store sufficient coffee, tea, and sugar to cover a possible shortage of its requirements in time of war.

5. SURPLUS.

The United States produces 45,000,000 tons of foodstuffs in excess of its requirements. This large excess production is a valuable asset in time of war as a means of obtaining allies, if such are desirable or necessary.

With this large excess production, amounting to 44 per cent, it is possible to reduce our yearly production 40 per cent and still have sufficient foodstuffs to provide a balanced ration for the population, sugar and coffee not being considered. By such a reduction of production many men can be released for military and essential purposes and our requirements of certain raw materials can be reduced.

6. PRODUCTION AREA.

The area consisting of the States of Michigan, Wisconsin, Minnesota, North Dakota, South Dakota, Nebraska, Kansas, Oklahoma, Missouri, Iowa, Illinois and Indiana forms the great food-producing area of the country. This area produces a surplus of essential foodstuffs and it includes nine of the primary grain centers and eight of the primary meat centers of the country. It is well located strategically and on account of its central location is only subject to attack from the north. This area is of vital importance to the country in case of war.

A secondary production area consisting of Louisiana, Arkansas, and eastern Texas is important to the country on account of its production of sugar and rice. On account of its proximity to the Gulf of Mexico this area is subject to attack from the south.

7. POPULATION.

The Pacific Coast States and the Southeastern States are self-sustaining in food production; however, the latter would be short of wheat and wheat products. The Southwestern and Northeastern States are dependent upon other parts of the country for various essential articles of food.

The area consisting of the States east of Indiana and Kentucky contains about 40,000,000 people and this area depends principally on the north central production area for a large part of its food supply.

8. DISTRIBUTION.

The movement of the great mass of food from the north central area to meet the requirements of the thickly populated northeastern area and for export is made by rail and water. The lines of communication consist of the water routes via the Great Lakes and the railroads passing through Michigan, Illinois, Indiana, Ohio and northern Kentucky; these lines are parallel to our northern border and are relatively close to it and are subject to being cut by an invasion from the north but are protected from invasion from the south or east.

The loss of these lines of communication would be a serious handicap to the country's food distribution in case of war.

9. CONCLUSIONS.

(*a*) With the exception of coffee and sugar the United States produces more than sufficient food to sustain the country on a balanced ration in time of peace or war.

(*b*) The shortage of sugar and coffee can be made up in time of war by importation, increased production, conservation, and the use of substitutes.

(*c*) A war reserve of sugar, coffee, and tea should be provided in time of peace.

(*d*) The vital food-producing area is located in the north central part of the country and a secondary area is west of the mouth of the Mississippi River. Both of these areas should be protected in time of war.

(*e*) The northeastern and southwestern parts of the country are dependent on other areas in case of war. The Pacific coast area is self sustaining. The southeastern part of the country is self-sustaining but requires wheat products to make up a balanced ration.

(*f*) The surplus food produced is a valuable asset by means of which to obtain allies; by the reduction of this surplus production men can be released for military and industrial purposes and the requirements of essential raw materials can be reduced.

(*g*) The Caribbean trade routes and the Panama Canal are of vital importance to our food supply and should be protected and retained under United States control.

(*h*) The lines of communications via the Great Lakes and by rail to the east through Michigan, Illinois, Indiana, Ohio and northern Kentucky are of vital importance to the country and should be protected.

Labor—Management and Distribution.

1. RELATIONS OF LABOR TO WAR.

A modern war is not merely a conflict of armies and navies; it is rather a titanic struggle between rival economic organizations in which the mobilization of a nation's industries is of equal importance with the mobilization of its fighting forces. The basis of the industrial structure of a country begins with man power in the production of raw materials and ends with man power in the manufacture of finished products. Labor in its relation to industry, therefore, is one of the fundamental sinews of war.

2. THE MISSION OF THE NATION IN WAR IN CONNECTION WITH LABOR.

(*a*) To insure adequate production of war supplies to meet the demands of our fighting forces.

(*b*) To insure that adequate production is based upon the time limit imposed upon our fighting forces by the enemy.

(*c*) To insure adequate production of the necessities of life to sustain that part of the Nation not under arms.

(*d*) To insure the preservation of our economic equilibrium to adequately meet the tasks of post-war reconstruction.

Within these premises are two factors upon which the entire military problem depends, *adequate production* and *the time limit.*

3. WORLD WAR ADMINISTRATION OF LABOR—ITS DEFICIENCIES.

The principal agencies dealing with labor problems in the World War were as follows:

Department of Labor.

Industrial service sections of the War Department, Navy Department, Shipping Board, and Emergency Fleet Corporation.

Labor divisions of the Food, Fuel, and United States Railroad Administrations.

Committee on labor in Advisory Commission, Council of National Defense.
Labor division of the War Industries Board.
Labor priorities section of the priorities division, War Industries Board.
War labor administration:
War Labor Policies Board.
National War Labor Board.
United States Employment Service.

The "work or fight" regulation of the selective service system was highly effective in diverting labor from idleness and nonessential employments to the essential war industries.

The outstanding deficiencies of the administration of labor in the World War were lack of the machinery for its management at the outset of war, duplication of effort, lack of coordination and conflicting jurisdiction between labor agencies created by the different departments, lack of a central labor-control agency, failure to regulate wages as well as prices, failure to regulate apportionment, procurement and distribution of labor, and the injurious effect of volunteer system.

4. DRAFT OF LABOR IN WAR—ARGUMENT AGAINST IT.

The opinions which advocate the industrial draft are summed up about as follows:

> That those who have been furloughed to the reserve shall be graded according to their vocational standing in a manner similar to grades in the service, and they shall, in the event of war, receive the same pay and allowances as the like grades in the military service and shall receive allowances for their bona fide dependents; that no person within the United States shall receive or enjoy any income outside of the pay and allowances, as set forth above, during the existence of a state of war.

The above opinions are in theory ideal—the fulfillment of their provisions would insure the carrying out of the mission of labor in war as previously expressed. But the policy of the draft of labor is not practical of application for many reasons, the most important of which are as follows:

(*a*) The drafting of labor does not necessarily result in adequate production, but does result in stifling competition, which is the backbone of industry's existence.

(*b*) The cost to the Government in pay, pensions, and overhead expense would be prohibitive.

(*c*) The system would require an overhead army administration to hire, discharge, discipline, promote, inspect, and pay the industrial

army, to keep the records and correspondence pertaining to it, and to provide for its medical attention and hospitalization that would well-nigh be prohibitive.

(*d*) The draft of labor calls for a forced contribution.

(*e*) Finally, and most important, the time necessary to build up the vast organizational machinery involved in the industrial draft is a factor that can not be removed. The time involved in the draft of labor would defeat the very purpose of its adoption—*quick* returns in war productions.

5. PROPOSED PROJECT FOR THE MANAGEMENT AND DISTRIBUTION OF LABOR IN WAR.

Owing to inability of forecasting the character of another war in which we may become involved, it is believed that principles only can be adopted at this time, the details of their application being a function of the development of industrial war plans to meet a concrete situation.

Based upon what are considered essential factors, the following project is proposed:

(*a*) A labor administrative organization outlined as to its basic elements in time of peace which will be placed in operation on or before declaration of war.

(*b*) An organization in which absolute control is vested. Its chief to be selected on grounds of suitability only and held individually responsible for the efficient performance of the organization.

(*c*) This organization to contain the following essential features:

1. A labor policy-making agency having the necessary power to enforce its policies.
2. A labor agency for the adjustment of controversies whose decisions are final and binding. To consist of representatives of labor, employers, and the public.
3. A labor agency charged in time of peace with the maintenance of statistical data as to classification and distribution of labor; and in time of war with the apportionment, procurement, and distribution of labor. To work in cooperation with a national war industries agency and with local draft boards.
4. A labor wage-fixing agency working in cooperation with a national price-fixing agency.

(*d*) To adopt selective service laws containing a "work or fight" regulation and prohibiting voluntary enlistment except for individuals rejected as nonessential to war industries.

(*e*) A presidential proclamation issued on or before declaration of war, to the effect that the existing scale of monetary values in

each local community, of raw materials, manufactured goods and every other purchasable commodity, transportation and freight charges, wages, salaries, and other payments for services, rates of rents and lodging, etc., will remain fixed as of a specified date pending the creation of a national price and wage fixing adjustment agency, and thereafter to remain as fixed by said agency. The President to promptly create the above indicated agency with local sections operating throughout the United States.

6. CONCLUSIONS.

The man power of the United States is adequate to meet the demands for labor in a major war effort, provided its utilization and distribution are controlled by some such project as has been indicated. The fulfillment of the mission of the Nation in war in connection with labor is dependent in its final analysis upon the requirement of insuring adequate production of war supplies within the time limit imposed upon our fighting forces by the enemy. This requirement can be most expeditiously met by a project whose basis is a labor agency planned for in times of peace and in which complete control is vested in time of war. Without such control agency planned for in advance, a shortage of labor will again manifest itself as in the World War. But such shortage will, as before, be due to misdirection of effort rather than to lack of man power.

General Conclusions.

1. MAN POWER.

1. The population of continental United States estimated as of January 1, 1924, is approximately 111,225,000.

Of whites are about 99,675,000.
Of negroes are about 11,000,000.
All others are about 675,000.

2. The man power available for a major war estimated on the above population is:

Class 1, approximate	8,000,000
Ultimate possible, approximate	16,675,000

3. The War Department has prepared a law similar to the selective service act which will insure an availability of personnel in excess of possible immediate utilization. The entire class 1 could be drafted within one year.

4. The national response and support would depend upon the recognized justice of the war. A minor effort, if it meets with popular approval, could be supported by voluntary enlistment.

5. Raw man power is not a limiting factor in any foreseeable defensive war.

2. ORGANIZATION AND TRAINING.

1. The national defense act provides for the organization and maintenance of the Army of the United States in *peace* and its mobilization for *war*, and is probably as efficient a policy as could be expected of any which was based upon voluntary effort. It does not regulate the effective peace strength of the Army. All components are below authorized strengths and an appreciable part of the present strength of each component is insufficiently trained.

2. About 82,000 of the present regular enlisted force are available in the United States. All overseas garrisons are below strength.

3. Plans for national defense contemplate the distribution of forces in frontier stations in a national position in readiness. Minimum training requirements are those necessary to the efficient assumption of the mission under the defensive policy.

4. The Navy is limited by the provisions of the 5–5–3 treaty and is but little below its possible effectiveness, thus limited.

5. The Army and Navy are prepared for any emergency which may reasonably be expected to develop within the next six months.

3. ECONOMIC SITUATION.

1. The basic war metals such as iron and copper exist in quantity. The most important deficiencies are in tin and the hardening and strengthening steel alloys.

2. In food the United States is self-sustaining except for sugar, coffee, and tea. The northeastern industrial area is dependent upon other areas.

3. Fuel is ample for any emergency assuming some continued use of the Mexican oil fields.

4. In other raw materials the United States is largely self-sustaining in vital items except for rubber, wool, and hides.

5. The railroads of the United States are ample for war needs but have critical points where they cross the large natural obstacles, such as mountains and large rivers, and where they parallel the northern and southern borders.

6. The highways of the United States are generally inadequate with the best net of improved roads in the States east of, and including, Ohio.

7. Except for the Great Lakes and Ohio River systems the waterways of the United States are unimportant. The former is on a boundary and is practically vital to the steel industry.

8. Motor transport is sufficient in quantity but is not standardized. Standardization will require about one year of controlled manufacturing effort.

9. Animals are already a shortage in the Army and three to four months are estimated as necessary before even limited supply can be made effective.

10. Telegraph, telephone and radio communication facilities are adequate. Cables not under British control are limited but do connect with practically all important overseas possessions. Aircraft are greatly insufficient under present estimated requirements and about two years will be required for production.

11. Labor is sufficient (except in some highly skilled specialists) provided its utilization is controlled through a central regulating agency.

12. The munitioning and industrial capacity of the United States is ample for any probable emergency. Conversion and adaption of plants to war production in quantity will require from one to one and a half years. Munitions on hand or in reserve are not in all cases sufficient to avoid being a delaying factor.

13. The United States is a creditor Nation; has a balanced budget, and is sound financially. Finance will not be a limiting factor in war effort.

14. Shipping under United States registry is ample at the same time to support commerce, reenforce the Navy, and still transport to and maintain in foreign treaties forces as follow:

Asiatic	1,120,000
European	3,700,000

PASSPORTS FOR OFFICERS AND THEIR FAMILIES.

Three classes of passports are issued by the Department of State: (*a*) Diplomatic, (*b*) special, and (*c*) ordinary.

(*a*) Diplomatic Passports.

This is the highest class of passport. It is officially known abroad as *passeport diplomatique*. It is signed personally by the Secretary of State, and insures to the holder thereof important diplomatic privileges. In addition to the diplomatic officers and consular officers of career of the United States, such passports are issued to naval attachés, assistant naval attachés, language students, and to officers of the Navy and Marine Corps who are connected with official missions of a diplomatic nature. The wives of officers to whom diplomatic passports are issued are entitled to separate passports of this class if such passports are necessary under the circumstances. The Department of State, where possible, desires to include the wives and minor children in the husbands' and fathers' passports instead of

issuing separate passports. The cost is $1, the fee required by law for administering the necessary oath. Visas, which are required for entry into and residence in foreign countries, are granted without cost by foreign diplomatic and consular officers in the United States and abroad in reciprocity with American law and practice. Diplomatic passports for officers of the Navy and Marine Corps can be secured only upon application supported by letters from the Navy Department (O. N. I.) to the Department of State.

(*b*) Special Passports.

This is the class of passport issued to officials and some employees of the Government who are ordered abroad on official duty to whom the usages of the Department of State will not permit the issue of diplomatic passports. The advantages of a special passport (which, like the diplomatic passport, is signed personally by the Secretary of State) are that it identifies the bearer as being connected with a Government agency and sometimes assists in obtaining certain customs courtesies, such as facilitating the examination of baggage, but does not necessarily insure free entry or freedom from search of baggage and personal effects. The wives of officers to whom special passports are issued are entitled to separate passports of this class if such passports are necessary under the circumstances. The cost is $1, the fee required by law for administering the prescribed oath. Visas, which are required, are granted without cost by foreign diplomatic and consular officers in the United States and abroad.

By an arrangement made by the Office of Naval Intelligence with the Division of Passport Control, Department of State, special passports may be secured by officers of the Navy and Marine Corps and their wives, and by certain employees of the Navy Department, in the following instances:

1. For an officer or employee who is proceeding abroad under official orders.
2. For the wife and minor children of such persons when actually accompanying the officer or employee.
3. For the wife and minor children of such person when proceeding independently to a foreign country where the husband is on duty.
4. For an officer *of* or *above the rank* of *lieutenant commander in the Navy* or *major in the Marine Corps* who is *proceeding to a foreign country on leave.*
5. For the wife and minor children of such person when actually accompanying him.

In the case of an officer of high rank on leave it is understood that from his naval traing and experience he is qualified to act as an

observer and obtain professional information that may be of great value to the Navy Department.

While the Department of State is disposed to be liberal in issuing special passports to immediate families of officers, it is not to be understood that the privilege is unlimited. The indiscriminate issue of special passports would soon lessen their value. The wife of an officer who is proceeding abroad but to countries where her husband is not on duty would not be entitled to a special passport. For example, the wife of an officer on duty in the Orient could not secure a passport for the countries of Europe. In such case she should secure the ordinary passport, for which the fee is $10; she would also have to pay for all visas. Visa fees are as high as $10 for certain countries.

The privileges of special passports granted to officers, while including their wives and minor children, do not extend to other relatives. An exception might be made in the case of the mother or sister of an unmarried officer proceeding abroad under a special passport where either the mother or sister would preside over his household. An exception might also be made in the case of a governess or nurse of American citizenship to whom the care of minor children en voyage is committed.

The Office of Naval Intelligence will gladly assist in securing special passports for officers and their wives who may be entitled to the same, but the following procedure should be observed:

(*a*) *When the applicant is in Washington.*—Make application in person to the Office of Naval Intelligence, room 2711, Navy Department; the chief clerk of the office will arrange all the details, including taking of photographs by the Bureau of Navigation (identification section).

(*b*) *When the applicant is not in Washington.*—Personal application (with appropriate identification) must be made to the clerk of the nearest United States court or of a State court authorized to naturalize aliens. The clerk of the court will forward the application, when completed, to the Department of State at Washington. The legal fees ordinarily prescribed for each passport total $10, but applicant should inform the clerk of the court that a special passport is desired, for which a fee of $1 should be paid to that officer for administering the required oath. (The Navy Department will request the Department of State to remit the remaining $9 where the journey is for official purposes.) When the application has been completed before the clerk of the court, applicant should so inform the Office of Naval Intelligence, preferably by telegram, giving the pertinent details of the case. An official request will then be made to the Division of Passport Control, De-

partment of State, by the Director of Naval Intelligence for issue of a special passport. The passport will be mailed by the Department of State to the applicant to the address given in his application.[1]

An officer making application for a special passport should show clearly in the blank form of application under the caption "Object of visit" the official character of the duty to which he is ordered, and the wife of an officer should show that she is to accompany or join her husband and give the official character of his duty.

All applications for passports must be accompanied by two unmounted photographs of applicant (size of photographs approximately 2 by 3 inches). Separate photographs of husband and wife are required; minor children may be photographed in group or may appear on photograph with mother.

A birth certificate of an officer is not required, as the Navy Department informs the Department of State that its official records show him to be a citizen of the United States. By law, where a marriage was solemnized on or after September 22, 1922, the wife does not take citizenship from her husband. Where marriage occurred on or after September 22, 1922, the wife will be required to furnish evidence of her own citizenship; marriage before that date conferred the husband's citizenship on the wife. Clerks of courts and passport agents will furnish, upon request, accurate directions as to the proper proof of citizenship.

(*c*) Ordinary Passports.

This is the class of passport issued generally to private citizens. It may be obtained upon application to the Department of State in Washington, its passport agencies, or to the clerk of a United States court or of a State court authorized to naturalize aliens. Fee, $10, inclusive of fees for visas. This is the class of passport to be obtained by officers, their wives, and members of their families where diplomatic or special passports are not permissible.

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[1] In New York, Chicago, San Francisco, New Orleans, and Seattle the Department of State maintains passport agencies; when an applicant is in one of these cities application should be made to an agency instead of to a United States court.

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